Chapter 3
Environmental Analysis

1.	Project Title:	Parkside at Baker Ranch Residential Project
2.	Lead Agency Name and Address:	City of Lake Forest, Development Services Department 25550 Commercentre Drive, Suite 100 Irvine, CA 92630
3.	Contact Person and Phone Number:	Carrie Tai, AICP, (949) 461-3466
4.	Project Location:	The project site encompasses 30 acres in the City of Lake Forest within Orange County, California. The site is located at 28201 Rancho Parkway, with the closest major intersection being Portola Parkway and Rancho Parkway to the southeast. The assessor's parcel numbers (APNs) are 104-143-46, -47, and -48.
5.	Project Sponsor's Name and Address:	Baker Ranch Properties, LLC 1 Upper Newport Plaza Drive Newport Beach, CA 92660
6.	General Plan Designation:	Commercial with a Mineral Resources Overlay
7.	Zoning:	Urban Activity with a Sand and Gravel Overlay Zone (Baker Ranch Planned Community Development Plan and Supplement Text)
8.	Description of Project:	The proposed project would develop up to 250 single- and multi-family attached and detached residential units on an approximately 30-acre project site, which would require approval of a Tentative Tract Map. The project would also require a General Plan Amendment to re-designate the western portion of the project site as Low-Medium Density Residential and the eastern portion as Medium Density Residential and remove the Mineral Resources Overlay, and a Zone Change to amend the Baker Ranch Planned Community Development Plan and Supplemental Text to allow for residential development on the project site and remove the Mineral Resources Overlay. Additionally, the proposed project involves an amendment to the site's existing reclamation plan so that the proposed project's grading plan and the amended reclamation plan would be consistent.
9.	Surrounding Land Uses and Setting:	Commercial, State Route 241, Regional Park/Open Space, Business Park, and Light Industrial
10.	Other Public Agencies Whose Approval Is Required:	Caltrans (Encroachment Permit)

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project (i.e., the project would involve at least one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Service Systems	☐ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis, as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature	09/09/2014 Date
Carrie Tai, AICP Printed Name	City of Lake Forest For

Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained if it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. "Negative Declaration: Less than Significant with Mitigation Incorporated" applies when the incorporation of mitigation measures has reduced an effect from a "Potentially Significant Impact" to a "Less-than-Significant Impact." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less-than-significant level.
5. Earlier analyses may be used if, pursuant to tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where earlier analyses are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Incorporated," describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:
    a. the significance criteria or threshold, if any, used to evaluate each question; and
    b. the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

I. Aesthetics	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☒
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☒	☐

Environmental Setting

Visual Conditions

Lake Forest is located in the heart of south Orange County and Saddleback Valley, between the coastal floodplain and the Santa Ana Mountains. The southern portion of the city is a relatively flat, developed suburban area, with the built environment defined by freeway services, commercial development, landscaped parkways, and residential neighborhoods. The city extends north to the foothills of the Santa Ana Mountains. The mountains form a visual backdrop and topographic context for the more recently developed northern reach of the city. Development conforms to the rising topography of the city. The geometric lines and engineered forms associated with moderately dense suburban land use patterns characterize the landscape adjacent to Interstate (I)-5. As the city rises in elevation, it transitions into a more natural setting. Development conforms to the rolling topography, and the serpentine lines, textured hillsides, and natural colors of undeveloped land and preserved riparian corridors begin to influence the city's character. Residential communities tend to hug hilltops, leaving steeper and undevelopable slopes as open space. These more natural elements of the suburban landscape combine with developed open space and landscaped parkways to form a visual link that weaves through the city, becoming more prominent in the viewshed of the project area. The viewshed of the project area ultimately opens up to the expansive views of the developing foothills, the approximately 4,300-acre Whiting Ranch Wilderness Park, the Cleveland National Forest, and the ridgelines of the Santa Ana Mountains.

Elevations range from approximately 300 feet at I-5 to 1,400 feet at the city's northern boundary, shared by the Cleveland National Forest. The Santa Ana Mountains and foothills can be seen from various points within the city, including from major roadways, while views of the Saddleback Valley floor and the Pacific Ocean can be seen from higher elevations.

The proposed project is located in a suburban setting in the northern portion of the city and is surrounded by light industrial uses to the west, a large recreational sports park to the south, some storage uses, piles of fill, and a church to the east, and State Route (SR)-241 to the north.

Topography in the immediately surrounding area is generally higher near the project site and gradually lowers in elevation along Portola Parkway heading west.

Existing visual conditions at the project site include an undeveloped site that is primarily used for storage and was previously used for sand mining activities. Many areas of the project site are vacant and consist of bare ground; however, a portion of the site is used to store container landscaping plants, and a general materials storage yard. Views onto the project site are available from SR-241, located along the northern project boundary, and Rancho Parkway, located along the southern project boundary. Other surrounding roadways, such as Portola Parkway and Purpose Drive, are separated visually from the project site due to a banked landform along the eastern project boundary, precluding views onto the site.

Designated Scenic Resources

Scenic roadways and highways are identified by local and state governments in planning documents and programs. At the state level, the California Department of Transportation (Caltrans) maintains a list of eligible and officially-designated scenic highways under their California Scenic Highway Program. While officially designated scenic highways are considered more sensitive than eligible scenic highways, both designations are important when assessing potential visual impacts and any visual changes from either should be disclosed in accordance with the spirit of CEQA. Within Orange County, there are four eligible (SR-1, SR-57, SR-74, and SR-91) and one officially designated (SR-91) state scenic highways. The nearest eligible state scenic highway is SR-74, located about 9 miles south of the project, and the officially-designated state scenic highway (SR-91) is located more than 15 miles north of the project site (California Department of Transportation 2014). No views of the project site are available from any of these scenic designated facilities.

Locally, scenic roadway and highway designations are identified in the Orange County General Plan and the City of Lake Forest General Plan. The Orange County General Plan Transportation Element identifies "viewscape" and "landscape" corridors throughout the County in the Scenic Highway Plan Map, including within the City of Lake Forest (County of Orange 2004). These corridors are defined as follows:

- **Landscape corridors** are designated "to complement the scenic highway" and should follow the adopted "landscape typical section." Variations to the landscape typical section are required to be addressed in the scenic corridor implementation plans.
- **Viewscape corridors** contain "unusual scenic resources and aesthetics values" and the designation "is intended to minimize the impact of the highway and land development upon the significant scenic resources along the route."

Most of viewscape and landscape corridors occur in southern Orange County, south of the project; however, El Toro Road and Santa Margarita Parkway each have portions designated as "landscape corridors" and "viewscape corridors." These designated corridors occur about 0.4 miles south of the project, at the intersection of El Toro Road and Santa Margarita Parkway. The project site is not visible from either corridor.

Viewer Groups and Other Scenic Resources

Viewer groups are broadly characterized as having public or private views. Public views are available to all visual receptors, such as views from a neighborhood park or public roadway. Private views, however, are exclusive to property owners and their guests or members, and include places

such as residences and private facilities (e.g., religious institutions or homeowners' association community areas).

Public views of the project site are available from areas approaching the site from SR-241 or from Rancho Parkway, which fronts the project site on the southern boundary. These views are available from near the project site. As viewers increase in distance from the site, views diminish and become unavailable.

Planning Goals, Objectives, and Policies

Local planning and regulatory documents, such as the Lake Forest General Plan, can identify visual resources that should be protected or considered during future discretionary actions. As such, a review of the Orange County General Plan and Lake Forest General Plan was conducted, and any goals, objectives, policies, or other designations related to preservation of aesthetic or visual resources are included below. The Baker Ranch Planned Community Development Plan, adopted in 1988, also applies to the project site and includes standards and regulations pertaining to building heights. Relevant regulations and standards from the Baker Ranch Planned Community Development Plan are also included below.

Orange County General Plan (Transportation Element)

- **Goal 1:** Preserve and enhance unique or special aesthetic and visual resources through sensitive highway design and the regulation of development within the scenic corridor.
    - *Objective 1.1*: Protect and enhance the County's beauty, amenities, and quality of life within the unincorporated areas.
    - *Objective 1.6*: Require sufficient setback from the scenic corridor, where feasible, for the purpose of preserving the corridor's scenic qualities.
        - Policy 1.2: Where necessary to preserve unique or special visual features, impose conditions on development within a scenic highway corridor to require dedication of scenic easements consistent with the adopted corridor plan.

Baker Ranch Planned Community Development Plan and Supplemental Text

- Site Development Standards
    - Single-Family Dwellings
        - Building Height: Thirty-five (35) foot maximum, measured from the top of the adjacent grade to the ridgeline, in accordance with Section X.
    - Multi-Family Residential Standards
        - Building Height: Forty (40) foot maximum, measured from the top of the adjacent grade to the ridgeline, in accordance with Section X.

Impact Analysis

Would the project:

a. Have a substantial adverse effect on a scenic vista?

Less-than-Significant Impact. The proposed project would not have an adverse effect on a scenic vista. Scenic vistas are views that consist of horizon-line views and also may include any specific scenic resources or views identified or designated in a local planning document. The project site is located at a relatively lower elevation compared to adjacent areas and is surrounded by development (e.g., office parks, recreational areas, and a toll road). As such, because views of the project site are limited to immediately surrounding areas and there are no scenic vistas identified within the surrounding areas where views of the site are visible, implementation of the project would not result in a substantial adverse effect on a scenic vista. Impacts would be less than significant.

b. Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings along a scenic highway?

No Impact. The proposed project would not substantially damage any scenic resources along a scenic highway. As noted above, the nearest designated scenic highway is about 9 miles south of the project, and no views from a scenic highway would be available. No impacts would occur.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

Less-than-Significant Impact. The proposed project would not substantially degrade the existing visual character or quality of the site or surrounding areas. Approval of the proposed project would result in the construction of a residential subdivision on a site with bare ground and an assortment of stored items such as cars, trucks, equipment, shipping containers, and trees and plants in containers. As a result, the existing random assortment and visual character of the site would become an organized and developed area with residential homes, landscaping, and internal roadways, resulting in an enhancement of the visual quality. Therefore, the project is not anticipated to degrade the existing visual character or quality of the site or its surroundings. Impacts related to the visual quality of the project site and its surroundings would be less than significant.

d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Less-than-Significant Impact. The project is located in an urbanized area that is developed with industrial, recreational, commercial, religious, residential, and transportation uses. The project site is surrounded by a developed environment with fixed and mobile sources of exterior light and glare. Fixed sources of light and glare include exterior building-mounted and freestanding light fixtures, illuminated signage on existing land uses, and street lighting along local streets near the project. Mobile sources of light and glare originate from vehicles. These existing light sources contribute to moderate levels of nighttime lighting.

The proposed project would involve installation of nighttime lighting for roadway visibility and safety; however, as described above, the surrounding area is largely developed with existing nighttime lighting and local roadways include mobile light sources. Direct views onto the project site are limited from surrounding areas and it is not anticipated that the project would adversely affect daytime or nighttime views in the area. Further, lighting improvements would be required to

comply with the design standards outlined in the City's Municipal Code Chapter 7.08Standards of Design, Subsection 7.08.095, which requires street lighting along and at the intersections of all arterial highways and local streets in accordance with the lumination levels specified in the standard plans. Other applicable lighting requirements would include the site development standards within the Baker Ranch Planned Community Development Plan, which requires all lighting to be designed and located to confine direct rays to the premises. Lastly, the presence of intervening vegetation, structures, and ridgeline topography would diminish or block direct sightlines to the project site and reduce glare in some locations. Impacts related to the creation of new sources of substantial light or glare would be less than significant.

II. Agriculture and Forest Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project, the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Setting

Under the California Land Conservation Act of 1975 (Williamson Act) and the Farmland Mapping and Monitoring Program (FMMP), farmlands are mapped by the State of California Department of

Conservation (CDC) in order to provide data for decision-makers to use in planning for current and future uses of the state's agricultural lands. The project site is a former surface mine consisting of unimproved land used primarily for equipment storage, container landscaping plants, landscaping material processing, and staging areas for construction and landscaping companies. The project site is bounded on the north by the SR-241 Foothill Transportation Corridor, on the east by Portola Parkway and Saddleback Church, on the south by Rancho Parkway and the City's Sports Park and Recreation Center (under construction), and on the west by light industrial and business park uses. The project site is designated Commercial with a Mineral Resources Overlay per the City of Lake Forest General Plan Land Use Element, and it is zoned PC 7 (Baker Ranch Planned Community) (see Figures 2-3 and 2-4). Neither the project site nor any parcels within the project vicinity are considered Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or Farmland of Local Importance (California Department of Conservation 2014a); the project site does not contain any land subject to a Williamson Act contract. No farming is present on site or on the parcels surrounding the project site.

Impact Analysis

Would the project:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The proposed project is located on unimproved land used primarily for storage and staging areas. The FMMP designates the project site as Other Land and Urban and Built-Up Land on its California Important Farmlands Finder map for Orange County. The map does not identify the project site as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2014a). Therefore, the proposed project would not convert any such farmland to non-agricultural use; no impact on farmland would occur.

b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

No Impact. The project site is currently a storage and staging area located within the PC 7 zone, "Baker Ranch Planned Community" (see Figure 2-4). Neither the project site nor any parcels within the project vicinity are zoned for agricultural use or subject to any Williamson Act contracts. Therefore, the proposed project would not conflict with existing zoning for agricultural use or conflict with a Williamson Act contract, and no impact would occur.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. As described above in II.a and II.b, the project site is located on unimproved land used primarily for storage and zoned PC 7 "Baker Ranch Planned Community." No land zoned as forest land or timberland exists within the proposed project boundaries. The proposed project would not conflict with existing zoning for forest land or timberland; no impact would occur.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in II.c, no land zoned as forest land or timberland exists within the proposed project boundaries. Approval of the proposed plan would not result in the loss of forest land or conversion of forest land to other uses; no impact would occur.

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. See II.a. No agricultural land uses, forest land, or timberland exist in the vicinity of the proposed project, and the proposed project site currently consists of an unimproved area used for storage and staging operations. The proposed project includes closure and reclamation of a surface mine and construction of up to 250 single- and multi-family attached and detached residential units on the approximately 30-acre project site. The proposed project would not involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or forest land to non-forest use; no impact would occur.

III. Air Quality	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Environmental Setting

The project site is located within the South Coast Air Basin (Basin), an area covering approximately 6,745 square miles and bounded by the Pacific Ocean to the west and south and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Basin, which is a coastal plain with connecting broad valleys and low hills.

Local Air Quality

The South Coast Air Quality Management District (SCAQMD), which has divided the Basin into air monitoring areas, maintains a network of air quality monitoring stations throughout the Basin. The project site is located in the Saddleback Valley area (Source Receptor Area [SRA] 19). The nearest monitoring station is the Mission Viejo station (ARB 30002), located approximately 3 miles southwest of the proposed project. Criteria pollutants monitored at the Mission Viejo station include ozone (O_3), carbon monoxide (CO), and particulate matter less than or equal to 2.5 micrometers in diameter (PM2.5) and 10 micrometers in diameter (PM10). Because nitrogen dioxide (NO_2) and sulfur dioxide (SO_2) are not measured at the Mission Viejo station, NO_2 and SO_2 monitoring data from the next closest station, Costa Mesa – Verde Drive station (ARB 30195), are presented.

Concentrations of pollutants over the last 3 years (2010–2012) have been compiled from the stations' data (see Table 3-1). Monitoring data show the following pollutant concentration trends: 1-hour O_3 California Ambient Air Quality Standards (CAAQS) exceeded at least twice in 2010 and in 2012 but not in 2011; 8-hour O_3 CAAQS and National Ambient Air Quality Standards (NAAQS) exceeded two times in 2010; five and two times in 2011, respectively; and six and one times in 2012, respectively. No violations of the CO, PM10, or PM2.5 CAAQS or NAAQS, or NO_2 CAAQS were recorded.

Table 3-1. Ambient Background Concentrations from the Mission Viejo Station (ARB 30002), and Costa Mesa - Verde Drive Station (ARB 30195)

Pollutant Standards	2010	2011	2012
1-Hour Ozone (O_3)			
Maximum Concentration (ppm)	0.117	0.094	0.096
Fourth-Highest Concentration (ppm)	0.085	0.087	0.086
California Designation Value	0.11	0.10	0.09
Number of Days Standard Exceeded			
CAAQS 1-hour (> 0.09 ppm)	2	0	2
8-Hour Ozone (O_3)			
State Maximum Concentration (ppm)	0.083	0.083	0.079
State Fourth-Highest Concentration (ppm)	0.069	0.072	0.071
State Designation Value (ppm)	0.095	0.087	0.079
National Maximum Concentration (ppm)	0.082	0.083	0.078
National Fourth-Highest Concentration (ppm)	0.069	0.074	0.072
National Design Value (ppm)	0.081	0.074	0.070
Number of Days Standard Exceeded			
CAAQS 8-hour (> 0.070 ppm)	2	5	6
NAAQS 8-hour (> 0.075 ppm)	2	2	1
Carbon Monoxide (CO)			
Maximum Concentration 1-hour Period (ppm)	1.2	1.4	1.5
Maximum Concentration 8-hour Period (ppm)	0.90	0.95	0.79
Number of Days Standard Exceeded			
NAAQS 8-hour (≥ 9 ppm)	0	0	0
CAAQS 8-hour (≥ 9.0 ppm)	0	0	0
NAAQS 1-hour (≥ 35 ppm)	0	0	0
CAAQS 1-hour (≥ 20 ppm)	0	0	0
Nitrogen Dioxide (NO_2) (Costa Mesa – Verde Drive Station)			
Maximum 1-hour Concentration (ppm)	70.0	60.5	74.4
Annual Average Concentration(ppm)	11	NA	N
Number of Days Standard Exceeded			
CAAQS (0.18 ppm)	0	0	0
Suspended Particulates (PM10) *(Westchester Parkway Station)*			
Maximum State 24-hour Concentration (µg/m^3)	34.0	47.0	36.0
Fourth-Highest State 24-hour Concentration (µg/m^3)	29.0	30.0	26.0
Maximum National 24-hour Concentration (µg/m^3)	34.0	48.0	37.0

Pollutant Standards	2010	2011	2012
Fourth-Highest National 24-hour Concentration (µg/m³)	30.0	31.0	27.0
State Annual Average Concentration (CAAQS = 20 µg/m³)	NA	18.8	17.0
Number of Days Standard Exceeded (Estimated)			
CAAQS 24-hour (> 50 µg/m³)	NA	0.0	0.0
NAAQS 24-hour (> 150 µg/m³)	0.0	0.0	0.0
Suspended Particulates (PM2.5)			
Maximum 24-hour Concentration (µg/m³)	19.9	33.4	27.6
Fourth-Highest 24-hour Concentration (µg/m³)	15.4	21.9	15.2
24-hour Standard 98th Percentile (µg/m³)	17.3	28.8	17.6
National Annual Average Concentration (µg/m³)	7.9	8.5	7.9
State Annual Average Concentration (µg/m³)	NA	NA	7.9
Number of Days Standard Exceeded (*Estimated)*			
NAAQS 24-hour (> 35 µg/m³)	0.0	0.0	0.0
Sulfur Dioxide (SO_2) *(Costa Mesa – Verde Drive Station)*			
Highest Maximum 24-hour Concentration (ppm)	0.002	0.002	0.001
Annual Average Concentration (ppm)	0.000	NA	NA

Sources: California Air Resources Board 2014; U.S. Environmental Protection Agency 2014. Data compiled by ICF.

ppm = parts per million; µg/m³ = micrograms per cubic meter; mg/m³ = milligrams per cubic meter; > = greater than; > = greater than or equal to; NA = data not available.

Local Health Risk

SCAQMD completed an ambient air monitoring and evaluation study in the Basin (i.e., the Multiple Air Toxics Exposure Study III [MATES III] study). MATES III was a follow up to previous air toxics studies in the Basin and part of the SCAQMD Governing Board's Environmental Justice Initiative. SCAQMD has initiated its MATES IV study, which is currently holding Technical Advisory Group meetings. The final draft is expected to be delivered to the Governing Board in 2014 (South Coast Air Quality Management District 2012). The MATES III study concluded that the average carcinogenic risk throughout the Basin, which was attributed to toxic air contaminants (TACs), is approximately 1,194 in one million. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) are the greatest contributors. About 83.6% of all risk is attributed to diesel particulate matter (DPM) emissions (South Coast Air Quality Management District 2008a). According to MATES III, the project area is within a cancer risk zone of approximately 427 in one million (South Coast Air Quality Management District 2008a).

Sensitive Receptors and Locations

SCAQMD defines sensitive receptor locations as residential, commercial, and industrial land use areas as well as other locations where sensitive populations may be located. Other sensitive receptor locations include schools, hospitals, convalescent homes, day care centers, and other locations where children, chronically ill individuals, or other sensitive persons could be exposed (South Coast Air Quality Management District 2005). The project is located in a commercial and industrial setting, with a church and sports park also in the vicinity. There are no existing residences in the immediate vicinity of the project site; the closest residences are located more than 1,500 feet (450 meters) from the project site along El Toro Road.

Regulatory Setting

Federal

The Clean Air Act (CAA) was first enacted in 1963 but has been amended numerous times in subsequent years (1967, 1970, 1977, and 1990). The CAA establishes the NAAQS and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control measures that demonstrate how the standards will be met. The project area is located within a basin that is designated as a nonattainment area for certain pollutants that are regulated under the CAA.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would most substantially affect development of the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for criteria pollutants. Table 3-2 shows the NAAQS currently in effect for each criteria pollutant. The Orange County portion of the Basin fails to meet national standards for O_3 and PM2.5 and therefore is considered a federal nonattainment area for those pollutants. Table 3-3 lists each criteria pollutant and its related attainment status in Orange County.

Table 3-2. Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[a]	NAAQS[b]
Ozone (O_3)	1 hour	0.09 ppm[c]	--
	8 hour	0.070 ppm	0.075 ppm
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	100 ppb
	Annual Arithmetic Mean	0.030 ppm	53 ppb
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	75 ppb
	24 hour	0.04 ppm	0.14 ppm
Respirable Particulate Matter (PM10)	24 hour	50 µg/m^3 [c]	150 µg/m^3
	Annual Arithmetic Mean	20 µg/m^3	--
Fine Particulate Matter (PM2.5)	24 hour	--	35 µg/m^3
	Annual Arithmetic Mean	12 µg/m^3	12.0 µg/m^3
Sulfates	24 hour	25 µg/m^3	--
Lead (Pb)	30 day average	1.5 µg/m^3	--
	Calendar quarter	--	1.5 µg/m^3
	Rolling 3-Month Average	--	0.15 µg/m^3
Hydrogen Sulfide	1 hour	0.03 ppm	--
Vinyl Chloride	24 hour	0.01 ppm	--

Pollutant	Averaging Time	CAAQS[a]	NAAQS[b]

Source: California Air Resources Board 2013, U.S. Environmental Protection Agency 2012.

[a] The California Ambient Air Quality Standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

[b] The NAAQS, other than O_3 and those based on annual averages, are not to be exceeded more than once a year. The O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than 1.

[c] ppm = parts per million by volume; ppb = parts per billion; $\mu g/m^3$ = micrograms per cubic meter.

Table 3-3. Federal and State Attainment Status for Orange County Portion of the South Coast Air Basin

Pollutants	Federal Classification	State Classification
O_3 (1-hour standard)	--	Nonattainment
O_3 (8-hour standard)	Nonattainment, Extreme	Nonattainment
PM10	Attainment/Maintenance	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment/Maintenance	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Pb	Attainment	Attainment

Source: California Air Resources Board 2013; U.S. Environmental Protection Agency 2013.

State

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and set standards for other pollutants recognized by the state. In general, the California standards are more health protective than the corresponding NAAQS. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The Basin is in compliance with these California standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. Table 3-2 details the current NAAQS and CAAQS, and Table 3-3 provides the Orange County portion of the Basin's attainment status with respect to NAAQS and CAAQS.

Local

The project lies within the Orange County portion of the Basin, which is under the jurisdiction of SCAQMD. SCAQMD has jurisdiction over an area of approximately 10,743 square miles, including all of Orange County; Los Angeles County, except for the Antelope Valley; the non-desert portion of western San Bernardino County; and the western and Coachella Valley portions of Riverside County. The Basin is a sub-region of the SCAQMD jurisdiction. Although air quality in this area has improved, the Basin requires continued diligence to meet air quality standards.

SCAQMD has adopted a series of air quality management plans (AQMPs) to meet the CAAQS and NAAQS. These plans require, among other emissions-reducing activities, control technology for existing sources, control programs for area sources and indirect sources, a SCAQMD permitting

system designed to allow no net increase in emissions from any new or modified (i.e., previously permitted) emission sources, and transportation control measures. The 2012 AQMP is the most recent. The Final 2012 AQMP was adopted by the SCAQMD Governing Board on December 7, 2012. Control measure IND-01 was approved for adoption and inclusion in the Final 2012 AQMP at the February 1, 2013, Governing Board meeting. The California Air Resources Board (ARB) approved the 2012 AQMP on January 25, 2013, and the AQMP has been submitted to the U.S. Environmental Protection Agency (EPA) as a revision to the California SIP (South Coast Air Quality Management District 2012b). The 2012 AQMP addresses CAA requirements, including a 24-hour PM2.5 plan, additional 8-hour ozone measures with a vehicle-miles-traveled (VMT) offset demonstration, and a 1-hour ozone attainment demonstration with VMT offset demonstration.

SCAQMD published the *CEQA Air Quality Handbook* in November 1993[1] to help local governments analyze and mitigate project-specific air quality impacts. This handbook provides standards, methodologies, and procedures for conducting air quality analyses as part of CEQA documents prepared within SCAQMD's jurisdiction. In addition, SCAQMD has published two additional guidance documents—*Localized Significance Threshold Methodology for CEQA Evaluations* (South Coast Air Quality Management District 2008b) and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* (2006)—that provide guidance for evaluating localized effects from mass emissions during construction. Both were used in the preparation of this analysis (South Coast Air Quality Management District 2006).

Through the attainment planning process, SCAQMD develops rules and regulations to regulate sources of air pollution in the Basin (South Coast Air Quality Management District 2011a). Several of these rules may apply to construction or operation of the project. For example, SCAQMD Rule 403 requires implementing the best available fugitive dust control measures during active operations capable of generating fugitive dust emissions from onsite earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

Impact Analysis

Appendix G, Section III, of the State CEQA Guidelines states that, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make determinations regarding air quality impacts.

Criteria Pollutants

Given SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies outlined in its *CEQA Air Quality Handbook*, *Localized Significance Threshold Methodology for CEQA Evaluations*, and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* guidance documents were used in evaluating project impacts. Specifically, the SCAQMD construction and operational mass emissions thresholds identified in Table 3-4 were used for the assessment of criteria pollutants. Note that localized significance thresholds (LSTs) are based on the size or total area of the emissions source, the ambient air quality in each SRA where the emission source is located, and the distance to the sensitive receptor. The LSTs used here are based on the project area potentially disturbed on any given day (5 acres), the project location (SRA 19, Saddleback Valley), and the distance to the nearest sensitive receptor (450 meters).

[1] Section updates provided on the district's website.

Table 3-4. SCAQMD Significance Thresholds (pounds per day)

	Regional Emissions Thresholds		Localized Emissions Thresholds[a]	
Pollutant	Construction	Operation	Construction	Operation
Nitrogen Oxides (NO_X)	100	55	270	270
Volatile Organic Compounds (VOC)	75	55	N/A	N/A
Suspended Particulate Matter (PM10)	150	150	137	33
Fine Particulate Matter (PM2.5)	55	55	81	20
Sulfur Oxides (SO_X)	150	150	N/A	N/A
Carbon Monoxide (CO)	550	550	630	9,630
Lead (Pb)[b]	3	3	N/A	N/A

Source: South Coast Air Quality Management District 2008b, 2011b.

[a] Localized thresholds derived from SCAQMD's most recent LST tables are based on the project location (SRA 19, Saddleback Valley), the project area disturbed in any given day (5 acre), and the distance to the nearest sensitive receptor (450 meters). SCAQMD has not developed LSTs for VOC, SO_X, or Pb emissions.

[b] The proposed project would result in no lead emissions sources during the construction or operations period. As such, lead emissions are not evaluated herein.

Methods

The methodology for identifying construction- and operations-related emissions is presented the air quality technical report associated with the project, included in Appendix B. In addition, a Health Risk Assessment and CO Modeling memorandum was prepared for the project and is included as Appendix C.

Would the project:

a. Conflict with or obstruct implementation of the applicable air quality plan?

Less-than-Significant Impact. SCAQMD is required, pursuant to the CAA, to reduce emissions of criteria pollutants for which the Basin is in nonattainment. SCAQMD's most recent plan to achieve air quality standards is the 2012 AQMP, adopted by the SCAQMD Governing Board on December 7, 2012. The 2012 AQMP outlines a comprehensive control strategy to meet the requirement for expeditious progress toward attainment of the 24-hour PM2.5 NAAQS in 2014 through all feasible control measures. The 2012 AQMP also includes specific measures for implementing the ozone strategy in the 2007 AQMP and attaining the 8-hour ozone standard by 2023 (South Coast Air Quality Management District 2013a). These strategies are based, in part, on regional population, housing, and employment projections prepared by the region's cities and counties and incorporated by SCAG. As such, projects that propose development that is consistent with the growth anticipated in the relevant land use plans that were used in the formulation of the AQMP are therefore considered to be consistent with the AQMP. The governing land use document relevant to the project area is the City of Lake Forest General Plan. Therefore, projects that propose development consistent with the growth anticipated in the current City General Plan are considered consistent with the AQMP.

The proposed project would result in growth in population, but the growth would be consistent with the City of Lake Forest General Plan because the resulting traffic would be less than the current land use designation of commercial. In addition, the project's land uses would be no more intense than

the currently designated land use. As a result, the project would be consistent with the AQMP, and this impact would be less than significant.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less-than-Significant Impact. The proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Project-related air emissions are calculated and evaluated for both construction and operational phases, which are described separately below.

Construction

Construction criteria pollutant emissions were quantified in the air quality technical report associated with the proposed project (Appendix B). Criteria pollutants would be generated by the exhaust emissions of heavy-duty construction equipment used during the multiple phases of the proposed project's construction. Non-exhaust emissions would be generated by earthwork and demolition activities, which would result in fugitive dust emissions, and painting/coatings operations, which would release VOCs during off-gassing. Construction-related emissions are shown in Table 3-5.

Table 3-5. Proposed Project Criteria Pollutant Construction Emissions

	Total Regional Pollutant Emissions (lbs/day)							
Construction Phase	VOC	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	4.7	50	38	0.045	0.63	2.5	0.12	2.3
Site Preparation	6.6	77	59	0.088	8.4	3.4	4.2	3.2
Grading	7.9	95	64	0.1	4.5	4.1	1.7	3.7
Building Construction	4.4	33	28	0.045	1.2	2.2	0.31	2
Architectural Coating	11	2.5	3.1	0.0055	0.2	0.2	0.053	0.2
Paving	2	20	16	0.024	0.17	1.1	0.045	1
Peak Daily Emissions	15	95	64	0.1	12		7.4	
SCAQMD Regional Thresholds	75	100	550	150	150		55	
Threshold Exceeded?	No	No	No	No	No		No	

Source: Appendix B.

Note: Daily emissions were assessed by analyzing the daily emissions from each individual phase, as construction phases were assumed to be sequential and without overlap, except for a worst-case assumption where the Building Construction and Architectural Coating phases would overlap.

CO = carbon monoxide
CO_2 = carbon dioxide
CO_{2e} = carbon dioxide equivalent
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compound

Construction phases are expected to occur mostly sequentially, with the only overlap expected to occur between the building construction and architectural coating phases. No other overlap is expected. Emissions from each phase (or phases, in the case of building construction and

architectural coating) were assessed against the SCAQMD thresholds. The total emissions from all phases combined were not assessed for this analysis.

As shown in Table 3-5, daily emissions associated with construction would not exceed SCAQMD regional thresholds, as peak emissions are substantially below the thresholds for all pollutants. Emissions for all pollutants except NO_X are 20% or less of the respective threshold, while NO_X emissions are 95% of the threshold. Nevertheless, construction emissions would not contribute substantially to or worsen an existing air quality violation, because the thresholds would not be exceeded.

Operation

Operation of the proposed project would generate criteria pollutant emissions through the addition of area and mobile sources over existing conditions. Area sources would include landscaping equipment exhaust, combustion of natural gas for space and water heating in residences, and off-gassing from architectural coatings and consumer products. Mobile source emissions would be generated by vehicle trips, particularly by residents.

Emissions generated by the proposed project and the emissions generated by the existing land use are presented and compared in Table 3-6. Because the existing land use and its emissions are part of the baseline, the net change in emissions due to the proposed project is also presented in Table 3-6.

Table 3-6. Proposed Project Criteria Pollutant Operational Emissions

	Pollutant Emissions (lbs/day)					
Source	**VOC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Existing Yard Uses						
Area Sources	1.3	0.00005	0.0052	0	0.00002	0.00002
Energy Sources	0.003	0.028	0.023	0.00017	0.0021	0.0021
Mobile Sources	3.2	6.5	27	0.059	3.9	1.1
Total Existing Yard Uses Emissions	4.5	6.5	27	0.059	3.9	1.1
Proposed Residences						
Area Sources	11	0.24	21	0.0011	0.45	0.44
Energy Sources	0.21	1.8	0.78	0.012	0.15	0.15
Mobile Sources	9.2	27	110	0.27	19	5.2
Total Project Emissions	20	29	130	0.28	20	5.8
Net Change over Existing Uses	16	23	103	0.221	16	4.7
SCAQMD Regional Thresholds	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source	Pollutant Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$

Source: Appendix B.

CO = carbon monoxide
CO_2 = carbon dioxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compound

As shown in Table 3-6, the proposed project would generate more criteria pollutant emissions than the existing land use. However, the proposed project's daily emissions would result in emissions that are well below the SCAQMD thresholds for all pollutants. Consequently, the operational emissions of the proposed project would not result in any exceedances of the SCAQMD thresholds.

Emissions associated with construction of the proposed project and the total operational period of the proposed project would not violate any air quality standards or worsen an existing violation. Thus, this impact is less than significant.

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

Less-than-Significant Impact. The South Coast Air Basin, the geographic region where the proposed project is located, is currently in nonattainment for O_3 and PM2.5 under the NAAQS as well as for O_3, PM10, and PM2.5 under the CAAQS. This is the result of past and present projects and will be further impeded by reasonably foreseeable future projects. SCAQMD has developed thresholds to ensure attainment of the NAAQS and CAAQS; therefore, exceedance of SCAQMD regional threshold levels is considered a significant cumulative impact and adverse cumulative consequence. As discussed above for impact III.b, criteria pollutant emissions would not exceed any pollutants' regional threshold during construction and operation of the proposed project. Therefore, because the proposed project would not exceed the thresholds for a nonattainment pollutant (in this case, an ozone precursor [VOC and NO_X], PM10, and PM2.5), the proposed project would not result in a net increase in pollutants (including ozone precursors) that would be cumulatively considerable. This impact is less than significant.

d. Expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. The proposed project would contribute to localized air pollutant emissions during construction (short term) and project operations (long term). SCAQMD has developed a set of localized mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from construction- and operations-period emissions. According to SCAQMD, only those emissions that occur on site are to be considered in the LST analysis.

The closest residential uses to the project site are 1,500 feet to the south and southeast of the project site. The appropriate LST values were chosen based on this distance, the project size, and the project's vicinity using the SCAQMD's LST guidance document, which lists thresholds for a number of SRAs. The project is located in SRA Number 19, Saddleback Valley, with the project size assumed to be 5 acres, which is the largest possible project area in the guidance document.

Construction

Project construction would emit localized pollutants through the onsite use of heavy-duty construction equipment as well as fugitive dust from ground-disturbing activities on site. These localized emissions could expose nearby sensitive receptors to substantial pollutant concentrations.

Consistent with SCAQMD LST guidelines, emissions related to haul truck and employee commuting activity during construction are not considered in the evaluation of localized impacts. As shown in Table 3-7, maximum daily onsite emissions during construction would not exceed the appropriate LSTs for the project area. Therefore, project construction would not create substantial pollutant concentrations with respect to LSTs.

Table 3-7. Estimate of Localized Construction Emissions (pounds per day)

Emissions Sources	NO_X	CO	PM_{10}	$PM_{2.5}$
Onsite Emissions	79	51	10.2	6.7
Localized Significance Thresholds	270	9,630	137	81
Threshold Exceeded?	No	No	No	No

Source: Appendix B.

SRA: Number 19, Saddleback Valley, 5 acre LSTs, 1,500 foot distance for sensitive receptors

Note: LSTs interpolated from SCAQMD provided thresholds.

CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SRA = Source Receptor Area

Operation

SCAQMD's LST methodology was developed to aid in operational analysis of land use development projects. It directs analyses to focus on emissions from stationary sources (i.e., natural gas furnaces, architectural coatings) operating on site. The LST methodology and lookup tables are not designed to evaluate localized impacts from mobile sources traveling over roadways, such as residents' vehicle trips. Therefore, only emissions associated with onsite emissions are included in the LST analysis. For this analysis, it was assumed that 5% of project-related new mobile sources will occur on site, as the modeling software used to quantify emissions does not distinguish between onsite and offsite emissions. The 5% assumption likely represents a very conservative scenario, as onsite trips are expected to be minimal. As shown in Table 3-8, localized, operational emissions during project operations would not exceed the appropriate LSTs for the project area. Therefore, project operations would not create substantial pollutant concentrations with respect to LSTs.

Table 3-8. Estimate of Localized Operational Emissions (pounds per day)

Emissions Sources	NO_X	CO	PM_{10}	$PM_{2.5}$
Onsite Emissions	1.6	27	1.4	0.70
Localized Significance Thresholds	270	9,630	33	20
Threshold Exceeded?	No	No	No	No

Source: Appendix B.

SRA: Number 19, Saddleback Valley, 5 acre LSTs, 1,500 foot distance for sensitive receptors, onsite traffic 5% of total. Note: LSTs interpolated from SCAQMD provided thresholds.

CO = carbon monoxide
lbs/day = pounds per day
LST = localized significance threshold
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SRA = Source Receptor Area

Toxic Air Contaminants

SCAQMD recommends that a health risk assessment be conducted for projects with substantial emissions of TACs such as diesel particulate emissions (e.g., truck stops and warehouse distribution facilities), certain industrial projects with acute and/or chronically hazardous TAC pollutants, or, as in the case of the proposed project, projects that place sensitive receptors near existing diesel particulate emission sources such as freeways. Given the proposed location of residences as close as 130 feet from the center of SR-241, a health risk assessment was prepared for the proposed project..

The cancer and non-cancer risks for the proposed project were quantified using the EPA-approved AERMOD (American Meteorological Society/Environmental Protection Agency Regulatory Model) dispersion model. A detailed description of the methodology used in estimating roadway emissions, dispersion modeling, and risk calculations is contained within Appendix C. As shown in Appendix C and in Table 3-9, the cancer risk to an adult resident who spends 70 years at the proposed project site was determined to be between 0.48 to 7.2 per one million.. The cancer risk to children at the proposed project site was assessed using the California Office of Environmental Health Hazard Assessment's Hot Spots Guidance and was found to be 4.47 per one million (Appendix C). The maximum cancer risks for children and adults (7.2 and 4.47 per one million, respectively) are below the SCAQMD threshold of 10 per one million. The non-cancer hazard indices for chronic and acute risks due to the proposed project were determined to be 0.0090 and 0.0042, respectively, as shown in Table 3-9. These hazard indices are below the SCAQMD threshold of 1.0. Consequently, because the resulting cancer risks and hazard indices would be below the SCAQMD thresholds, the project would not expose receptors to substantial amounts of acute and/or chronically hazardous TAC pollutants. Impacts related to potential project-generated exposure to TACs on surrounding land uses would be less than significant.

Table 3-9. Health Risks for Proposed Project Residents

	Maximum Cancer Risk	Maximum Non-Cancer Chronic Risk (Hazard Index)	Maximum Non-Cancer Acute Risk (Hazard Index)
SCAQMD Threshold	**10 in 1 million**	**1.0**	**1.0**
Adult (70-year exposure)	77.2 in 1 million	0.0090	0.0042
Adult (30-year exposure)	4.0 in 1 million	0.0090	0.0042
Child (9-year exposure)	4.47 in 1 million	0.0090	0.0042
Threshold Exceeded?	No	No	No

Source: Appendix C

CO Hot Spots

With respect to CO hot spots, vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. The project's CO emissions were modeled using the CALINE4 model and would result in an increase in CO concentrations far below the state and federal standards (Appendix C). Additionally, the project would result in a maximum of 2,380 vehicle trips per day, which is 1,350 trips per day more than the existing conditions. Due to the relatively few number of vehicle trips that would be generated by the proposed project, and the low concentration of CO in the project vicinity with the contribution of the project, no CO hot spots would occur and there would be no CO-related impacts on sensitive receptors. This impact would be less than significant.

e. Create objectionable odors affecting a substantial number of people?

Less-than-Significant Impact. Construction of the project would require heavy-duty equipment in the project area during the construction period, which can generate odors through the equipment exhaust. Exhaust odors from the equipment would be localized, however, and would cease once the construction period has finished. Thus, construction odors would be minimal and would not affect a substantial number of people.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting areas, refineries, landfills, dairies, and fiberglass molding facilities. The proposed project does not include any uses identified by SCAQMD as being associated with odors, and, therefore, operational activity associated with the project would not produce objectionable odors.

This impact would be less than significant. No mitigation is required.

IV. Biological Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c. Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐
f. Conflict with the provisions of an adopted habitat conservation plan, natural conservation community plan, other approved local, regional, or state habitat conservation plan?	☐	☒	☐	☐

Environmental Setting

The project site is within the boundaries of the Central Subregion of the Natural Communities Conservation Plan (NCCP)/Habitat Conservation Plan (HCP) for the Central and Coastal Subregions but is outside of areas designated as reserve lands under the plan. The site is within the NCCP/HCP in-lieu fee area to offset impacts on coastal sage scrub habitat. For properties within the in-lieu fee area of the NCCP/HCP area, impacts on coastal sage scrub habitats can be mitigated through the payment of an in-lieu fee of $65,000 per acre. In addition, the site does not contain any lands designated by the U.S. Fish and Wildlife Service (USFWS) as critical habitat for threatened and endangered species. USFWS-designated critical habitat for the California coastal gnatcatcher (*Polioptila californica*) is associated with the NCCP/HCP reserve lands north of SR-241.

The site drains towards a detention basin in the northwestern corner of the project site, which conveys stormwater overflows to Glass Creek, which then conveys flows to Aliso Creek as depicted on the U.S. Geological Survey *El Toro*, *California* map (U.S. Geological Survey 1968a). Glass Creek has been diverted underneath Portola Parkway and resurfaces on the western side of Portola Parkway approximately 740 feet south of the site. Natural lands supporting native scrub habitat within 0.5 mile of the project site are depicted in Figure 3-1. These lands consist of sage scrub and riparian habitat associated with Serrano Creek and the NCCP reserve to the north and northwest, sage scrub habitat south of the sports park to the south and southwest, riparian and upland habitats associated with Aliso Creek and the aboveground portion of Glass Creek to the south and southeast of the project site, and a small strip of sage scrub on a manufactured slope between Portola and Saddleback Church to the east.

A large, steep, sandy earthen slope/wall is located on the northern edge of the site immediately south of SR-241. The project site contains three water drainage features: a V-ditch, two narrow drainage swales, and a detention basin. The V-ditch is along the western boundary of the project site and conveys flows from the northwestern corner to the southwestern corner of the site where flows then sheet-flow onto uplands. The small drainage swales and detention basin were constructed by the City as part of the Rancho Parkway Improvement Project completed in the fall of 2012. The drainage swales were intended as interim stormwater runoff control devices to route surface storm water on the site to the detention basin, pending the installation of permanent drainage conveyance devices in connection with the development of the site. The drainage swales exist within the project site on the southern and eastern edges and convey surface stormwater runoff to a detention basin in the northeastern corner of the site. The detention basin receives water from two sources: the small drainage swales on the southern and eastern edge of the site and from a small swale near the detention basin draining irrigation water from the container landscaping plants. The detention basin contains a drain pipe to convey overflow water to a storm drain associated with Portola Parkway that conveys water to Glass Creek that then daylights south of the site.

Vegetation

Most of the site was cleared of vegetation by the surface mining use. The majority of the vegetation that does exist at the site consists of native and non-native ruderal species associated with the large disturbed portions of the site. Additionally, the site contains boxed ornamental vegetation associated with the boxed landscaping plants and the landscape contractor yard, two eucalyptus trees (*Eucalyptus* sp.) in the southwestern corner of the site, and a thin strip of California buckwheat scrub is associated with the steep sandy slope on the northern edge of the site.

Ruderal: Ruderal plants were observed throughout the site but were concentrated along the borders of the site and along fence lines within the site. Dominant plants observed within the ruderal portions of the site include telegraph weed (*Heterotheca grandiflora,* native), tree tobacco (*Nicotiana glauca*, non-native), summer mustard (*Hirschfeldia incana*, non-native), deer weed (*Acmispon glaber*, native), common horseweed (*Conyza canadensis*, native), California buckwheat (*Eriogonum fasciculata,* native), sweet alyssum (*Lobularia maritima,* non-native) and sow-thistles (*Sonchus* sp., non-native). A relatively large area dominated by summer mustard is growing in the center of the western portion of the site.

Ornamental: Boxed ornamental vegetation is located in the eastern portion of the site. Ornamental vegetation present includes but is not limited to olive trees (*Olea europaea*, non-native), fan palms

(*Washingtonia* sp., non-native), date palms (*Phoenix canariensis*, non-native), bamboo (*Bambusa* sp., non-native), and agave (*Agave* sp., non-native).

Eucalyptus Trees: Two eucalyptus trees are located in the southwestern corner of the site.

California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance): The thin strip of buckwheat dominated scrub along the northern boundary of the site consists of approximately 0.87 acre, is approximately 1,410 feet in length, and ranges from 25 to 40 feet in width (Figure 3-2). The strip of scrub is between SR-241 and the project site and is on an extremely steep, sandy eroding 2:1 slope. The scrub is dominated by a very sparse cover of mature California buckwheat (*Eriogonum fasciculatum*) individuals and contains a few individuals of coyote bush (*Baccharis pilularis*), California encelia (*Encelia californica*), California sagebrush (*Artemisia californica*), and tree tobacco. This vegetation community was described as very low quality coastal sage scrub in the City of Lake Forest Opportunities Study Program EIR (City of Lake Forest 2008), which was verified subsequently during a site visit by an ICF biologist on April 8, 2014.

Regulatory Setting

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful to take (e.g., kill, harm, harass) any migratory bird listed in 50 Code of Federal Regulations (CFR) 10, including their nests, eggs, or products. The MBTA provides protection to more than 800 species of birds, including common species such as the American robin (*Turdus migratorius*), house finch (*Carpodacus mexicanus*), burrowing owl (*Athene cunicularia*), red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), and western meadowlark (*Sturnella neglecta*).

Orange County Natural Community Conservation Plan, Central Subregion

The Natural Community Conservation Act, codified at FGC Sections 2800–2840, authorizes the preparation of Natural Community Conservation Plans to protect natural communities and species while allowing a reasonable amount of economic development. The study area is within the NCCP/HCP, County of Orange Central and Coastal Subregion. The NCCP/HCP, which was reviewed and approved by CDFW (then California Department of Fish and Game) and USFWS in 1996, addresses the protection and management of coastal sage scrub (CSS) habitat and CSS-obligate species, as well as other covered habitats and species, and mitigates anticipated impacts on those habitats and species on a programmatic, subregional level rather than on a project-by-project, single-species basis. A habitat reserve in excess of 37,000 acres was established for the protection of CSS, other upland habitats, the coastal California gnatcatcher (*Polioptila californica californica*), and the other primarily CSS-dependent species identified in the NCCP/HCP. Specifically, the NCCP/HCP, USFWS, and CDFW authorized take of 39 identified species of plants and wildlife (including covered and conditionally covered species). Furthermore, the NCCP/HCP contains requirements for adaptive management, interim management, and funding management for the reserve as well as procedures and minimization measures related to the take of identified species and habitat. Thus, the NCCP/HCP provides for the protection and management of a broad range of plant and wildlife populations while providing certainty to the public and affected landowners regarding the location of future development and open space in the subregion.

Figure 3-1
Biological Resources - Vicinity
City of Lake Forest Baker Ranch Residential Project

K:\Irvine\GIS\Projects\City of Lake Forest\00126 14\mapdoc\BioFig3 2 Biological Resources Site.mxd Date: 9/4/2014 25119

Figure 3-2
Biological Resources - Site
City of Lake Forest Baker Ranch Residential Project

For properties within the in-lieu fee area of the NCCP/HCP area, impacts on CSS can be mitigated through the payment of an in-lieu fee of $65,000 per acre. The project site is within the in-lieu fee area of the NCCP/HCP.

Local

City of Lake Forest Municipal Code Chapter 6.20.025 (Eucalyptus Trees)

The City of Lake Forest regulates the maintenance of eucalyptus trees that are more than 8 feet tall or have a trunk diameter of 2 inches or more when measured at least 3 feet above ground level. The maintenance of eucalyptus trees is regulated to control infestation by a particular beetle, the eucalyptus longhorn borer. From April 1 through October 31 (the restricted period) of each year, a eucalyptus cutting permit must be obtained from the City to prune, remove, or transport a eucalyptus or its logs, branches, or trunk. During this restricted period, the application for the eucalyptus tree cutting or removal permit must include the number of eucalyptus trees to be cut, pruned, moved, or removed and their locations. The application must include the health, safety, or emergency reasons for pruning, moving, or removing the tree(s) during the restricted period. From November 1 through March 31, no permit is required for the pruning, cutting, removal, or transport of eucalyptus trees (City of Lake Forest 2006).

Methodology

Existing information regarding the site was reviewed, including the California Natural Diversity Database (CNDDB) (California Department of Fish and Wildlife2014) and California Native Plant Society (CNPS) databases (California Native Plant Society 2014) for the project quadrangle; *El Toro, California* (U.S. Geological Survey 1968a), and the following quadrangles: Santiago Peak (U.S. Geological Survey 1954), Canada Gobernadora (U.S. Geological Survey 1968b) and San Juan Capistrano (U.S. Geological Survey 1968c). Google Earth aerial imagery, dated April 16, 2013 (Google Earth 2014) for the project site and vicinity were reviewed prior to conducting field investigations to determine the species, natural communities, and habitat types that could be present in or adjacent to the project area. In addition, U.S. Fish and Wildlife Service designated critical habitat for the project site and vicinity was reviewed (U.S. Fish and Wildlife Service 2014).

A qualified biologist conducted a habitat-based reconnaissance-level survey of the project site on April 8, 2014. During the site visit, the project site was assessed for the presence/absence of habitat suitable to support special-status plant and wildlife species. The site visit was conducted on foot using binoculars. All plants, wildlife, and vegetation communities/habitat observed on the site were noted. Where possible, plant communities were classified according to *A Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evens 2009). Taxonomic nomenclature for plants follows *The Jepson Manual, Higher Plants of California* (Baldwin et al. 2012). No special-status species were observed during the site visit.

Impact Analysis

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less-than-Significant Impact with Mitigation Incorporated. The project site has the potential to support nesting birds protected by the MBTA due to the presence of structures and trees that would serve as suitable nesting locations. Mitigation Measure MM BIO-1 would ensure that nesting birds protected under the MBTA are not impacted by project implementation.

The CNDDB and CNPS literature review conducted for the project site and surrounding topographic quadrangles resulted in 30 special-status plant species and 30 special-status wildlife species occurring in the review area. Of these, four tree or large shrub species were confirmed to be absent during the site visit (described below). Moreover, 53 species were presumed absent from the site due to a lack of suitable habitat.

The remaining three species were determined to have a low potential to occur within the buckwheat scrub on the northern boundary of the site. These species include orange-throated whiptail (*Aspidoscelis tigris stejnegeri*, CDFW Species of Special Concern [SSC]), coast-horned lizard (*Phrynosoma blainvillii*, CDFW SSC), and coastal California gnatcatcher (*Polioptila californica californica*, Federal Threatened, CDFW SSC).

Special-status reptiles: Due to the small, narrow size and steepness and sparse cover of the scrub combined with the isolated nature and location (between SR-241 and the disturbed portion of the project site), the project site would not provide suitable habitat for substantial populations of either the coast-horned lizard or orange-throated whiptail. Impacts on these species associated with the re-grading of the steep sandy slope supporting buckwheat scrub on the northern boundary of the site would be less than significant.

Coastal California gnatcatcher: The project site is not within or immediately adjacent to USFWS designated critical habitat for the coastal California gnatcatcher. Critical habitat for the coastal California gnatcatcher is located north of SR-241 and is associated with NCCP Central/Coastal reserve lands. The City of Lake Forest Opportunities Study Program EIR states that this scrub community on the site is very low quality (City of Lake Forest 2008). This assessment was confirmed during the April 8, 2014, site visit conducted by the project biologist.

Due to the small, narrow size and steepness and sparse cover of the buckwheat scrub combined with the isolated nature and location (between SR-241 and the disturbed portion of the project site), the proposed project would not support nesting coastal California gnatcatchers. In addition, the scrub on the site is not expected to provide any form of routine foraging habitat for the species over any other form of native or non-native vegetation. The scrub on the site could potentially be used by California coastal gnatcatcher for movement purposes; however, given the low quality nature of the scrub and the additional north/south movement corridors associated with Aliso and Serrano Creeks in the vicinity, it is not expected to provide any form of routine movement habitat for the species. Given the low quality of the scrub on the site, the additional scrub located adjacent to the site and in the vicinity, and the protections to the species in the region afforded by the NCCP Central/Coastal Subregion reserves through existing reserve lands and payment of the in-lieu fee for removal of CSS habitat, the removal of 0.87 acre of low-quality buckwheat scrub would not result in a substantial

adverse indirect impact to the species. As such, no additional mitigation beyond payment of the NCCP/HCP CSS in-lieu fee would be required to offset impacts on loss of low-quality coastal California gnatcatcher movement habitat.

Given that there could feasibly be a coastal California gnatcatcher using the scrub on site for movement purposes during scrub removal activities, there is the potential for direct take of the species. As such, Mitigation Measures MM BIO-1, MM BIO-2, and MM BIO-3 would reduce the potential for direct impacts on the sensitive sage scrub species to a less-than-significant level. MM BIO-1 will mitigate for the loss of potential foraging and movement habitat for California gnatcatcher. MM BIO-2 will ensure that no impacts on nesting California gnatcatchers or other nesting birds covered under the MBTA will occur during project implementation, and MM-BIO-3 will ensure that the no direct impacts on California gnatcatcher will occur during the removal of vegetation on the site. Therefore, after implementation of Mitigation Measures MM BIO-1, MM BIO-2, and MM BIO-3, impacts related to candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFW or USFWS would be less than significant.

MM BIO-1. Prior to recordation of a subdivision map or issuance of a grading permit, whichever comes first, the applicant will provide proof to the City that in-lieu fees have been paid to the NCCP/HCP Reserve for 0.87 acre of impacts on buckwheat scrub habitat. Currently, these fees are assessed at $65,000 per acre of coastal sage scrub habitat lost.

MM BIO-2. Ground disturbance or vegetation removal activities will be conducted outside of the recognized nesting bird season (March 15 through August 31). If ground disturbance or vegetation removal activities are necessary during the nesting bird season, prior to grading activities, the project applicant will retain a qualified biologist to conduct a nesting bird survey(s) on and adjacent to (where possible) the site or work area. Surveys will be conducted within 5 days of vegetation removal and/or ground disturbance activities. If nesting birds are found on or adjacent to the project site or work area, then the biologist will provide and establish a suitable "no work" buffer around the nesting location in order to prevent nest failure or direct take of nesting birds. The nesting bird buffers will be maintained throughout the nesting period of the bird as observed and documented by the qualified biologist. No construction or other activities will be allowed to occur within the buffer until the young have fledged or the nest becomes inactive. Once the nest is determined to be inactive by the qualified biologist, the "no work" buffers will be taken down and work will resume.

MM BIO-3. The project applicant will retain a biologist permitted to conduct presence/absence surveys for coastal California gnatcatchers to conduct a sweep of the buckwheat scrub immediately prior to scrub removal activities and monitor the removal of the scrub to verify that no coastal California gnatcatchers are using the scrub during the scrub removal activities. If coastal California gnatcatchers are observed before or during the removal of the scrub, then the vegetation removal activities will cease until the scrub is no longer being utilized by coastal California gnatcatchers as observed by the biologist. Once the qualified biologist has determined the scrub is no longer utilized by coastal California gnatcatchers, work will resume. The results of the coastal California gnatcatchers survey and vegetation removal monitoring activities will be provided to the City of Lake Forest planning manager prior to issuance of building permits.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Less-than-Significant Impact with Mitigation Incorporated. The buckwheat scrub on site is of low quality and not suitable for nesting or foraging for the coastal California gnatcatcher. The loss of the scrub and the functions and values it represents as movement habitat would be considered a significant impact on California gnatcatcher. Implementation of MM BIO-1 would reduce the impact associated with the loss of the scrub to less than significant.

No riparian habitat is associated with the drainage features. A small amount of vegetation, having the potential to become riparian habitat, has been observed to temporarily grow within the detention basin between permitted maintenance activities . Impacts on any potential riparian habitat within the detention basin would be mitigated through conditions under and in compliance with the maintenance schedule as part of the Water Quality Management Plan (WQMP) for Rancho Parkway. As such, any adverse effect on potential riparian habitat temporarily present in the detention basin is already anticipated. In addition, the detention basin banks would not be materially affected in location or size by any planned modification as part of the grading plan for the site.

No additional upland or riparian sensitive natural communities identified in local or regional plans, policies, or regulations are present on the site. With implementation of MM BIO-1 and through the conditions provided under and in compliance with the WQMP for Rancho Parkway, no adverse effect on any riparian or other sensitive natural community would occur, and impacts would be less than significant.

c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less-than-Significant Impact. The V-ditch located on the western boundary of the project site appears to collect flows from the toll road and shows no sign of recent flow. This feature does not contain any native riparian or upland habitat nor is it expected to provide any substantial nesting or movement habitat for wildlife. Additionally, the drainage swales located on the south and eastern sides of the project site do not contain any native riparian or upland habitat and is not expected to provide any substantial nesting or movement habitat for wildlife. The swales convey upland stormwater runoff flows from the site to the detention basin where the majority of flows then evaporate in the basin and any overflows would be conveyed through the downpipe and transported underground to downstream features that ultimately drain into Aliso Creek. For purposes of CEQA, the V-ditch and drainage swales on site are determined to have marginal value for use by wildlife, and loss of these features would be considered less than significant, and no mitigation would be required to offset the loss of the marginal habitat for wildlife that the features provide. In addition, since the outlet pipe of the detention basin will remain in its current location and the detention basin would otherwise not be materially affected in size by any planned modification, it was determined that any potential temporary impacts on low-moderate quality wildlife habitat would be considered less than significant and that no mitigation would be required.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. The project site is not located on or immediately adjacent to a known wildlife movement corridor, nor does the site contain suitable vegetation and/or habitat that would provide quality wildlife movement opportunities. In addition, the project site is not located within any critical habitat for species as designated by USFWS. Therefore, the proposed project would not interfere with the movement of any wildlife species, and no impact would occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less-than-Significant Impact with Mitigation Incorporated. Two eucalyptus trees are located in the southeastern corner of the project site where construction is proposed to occur. Pursuant to Lake Forest Municipal Code 6.20.025 (City of Lake Forest 2006), trimming and/or removal of eucalyptus trees on public property is restricted, and transportation of any eucalyptus logs, branches, or trunks of eucalyptus trees on city streets or highways is prohibited from April 1 through October 31 without a eucalyptus tree cutting permit to protect against the potential spread of eucalyptus longhorn borer beetle (*Phoracantha a semipunctata*). Although the project site is not located on public property, to ensure compliance with City of Lake Forest Municipal Code 6.20.025, any transportation of eucalyptus cuttings on city streets or highways should be avoided from April 1 through October 31 without a permit. Mitigation Measure MM BIO-4 would ensure consistency with City Code 6.20.025 by preventing transportation during these months unless a City permit is obtained. Therefore, after implementation of Mitigation Measure MM BIO-4, impacts related to compliance with local policies or ordinances protecting biological resources would be less than significant.

> **MM BIO-4.** Removal and/or transportation of eucalyptus cuttings on City of Lake Forest streets will occur outside of the restricted dates as prescribed in City Municipal Code 6.20.025. If deemed necessary to transport eucalyptus cuttings on city streets or highways within the restricted period (April 1 through October 31), then a eucalyptus tree cutting permit will be required to be obtained from the City prior to transportation of cuttings.

f) Conflict with the provisions of an adopted habitat conservation plan, natural conservation community plan, other approved local, regional, or state habitat conservation plan?

Less-than-Significant Impact with Mitigation Incorporated. The project site is within the boundaries of the Central Subregion of the Orange County Natural Communities Conservation Plan. The site is not within areas designated as Reserve lands for the NCCP/HCP, but is within the in-lieu fee area of the NCCP/HCP. Even though the 0.87 acre of buckwheat scrub on the site is considered low-quality CSS habitat, it is still regulated under the NCCP/HCP. For properties within the in-lieu fee area of the NCCP/HCP area, impacts on coastal sage scrub can be mitigated through MM BIO-1, the payment of an in-lieu fee of $65,000 per acre.

V. Cultural Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☒
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Environmental Setting

Archaeological and Historical Resources

Archaeological investigations along coastal Southern California have produced a diverse range of human occupation, extending from approximately 10,000 years ago beginning with the early Holocene into the ethnohistoric and historic periods. The project site is in the vicinity of Aliso Creek, traditionally noted as an ethnographic transition zone between the Gabrielino and Juaneño Native American groups. Traditional definitions of Gabrielino territory include the watersheds of the San Gabriel, Santa Ana, and Los Angeles Rivers; portions of the Santa Monica and the Santa Ana Mountains; the Los Angeles Basin; the coast from Aliso Creek to Topanga Creek; and San Clemente, San Nicolas, and Santa Catalina Islands.

Due to the absence of development within the project site during the historic period, and the more recent history of extensive mining activity in and around the project site, there is no potential to encounter historic resources, historic archaeological resources, or prehistoric archaeological resources at the site. Historic aerial photographs and topographic maps show that the project site remained undeveloped into the 1980s; no buildings stood on the project site from 1938 to 1981. Aerial photographs and topographic maps indicate that gravel and sand mining operations began immediately east of the project site and today's Portola Parkway around 1980. From the 1990s into the first decade of this century, mining also took place on the west side of today's Portola Parkway. Both the project site and areas immediately south were mined by El Toro Materials during this period. Over one million yards of material have been removed in association with El Toro Materials mining activities in and around the project site. This activity has reduced the grade approximately 20 to 75 feet. All of the alluvial and colluvial deposits with any potential for containing cultural materials have been removed from the project site (Appendix D; National Environmental Title Research [NETR] 2009).

Paleontological Resources

The bedrock geologic unit mapped on the site is the Oso Member of the Tertiary-aged Capistrano Formation. Mining operations have exposed this material across much of the site, and it remains extant underneath other portions of the site. At the western portion of the project site, a limited amount of Quaternary Young Fan Formation, which likely covered the entire site prior to mining operations, is extant over the exposed and underlying bedrock formation. Limited zones of surface materials expected to be encountered within the project site also include undocumented fill, stockpiles of materials and tailings, and zones of colluvium.

The Oso Member of the Capistrano Formation is highly fossiliferous. Several localities have been documented from the Oso Member nearby the project site. These localities have produced an extensive composite fossil fauna of predominantly marine vertebrates. Fossils found adjacent to and in the vicinity of the project area include sea lions (*Otariidae*), dugongid sea cows (*Dugongidae*), and horse fossils (*Pliohippus*) (Los Angeles County Natural History Museum 2009). Additional species recorded include cartilaginous fish, such as sharks and rays; bony fish, such as salmon and sturgeon; leatherback turtles; crocodiles; diving birds; horses; rhinoceroses; camels; sea lions; and several types of whales, such as right, rorqual, and sperm whales.

According to Orange County paleontological sensitivity guidelines (Eisentraut and Cooper 2002), the Capistrano Formation has a very high sensitivity for paleontological resources, which means fossils are considered scientifically very significant and very important for research.

Methods

Records Search

In 2009, after years of mining activity in and around the Parkside at Baker Ranch project site, an archaeological record search was conducted for the City of Lake Forest Sports Park and Recreation Center Final Environmental Impact Report (ICF Jones & Stokes 2011). That project is adjacent to the Parkside at Baker Ranch project site. The 2009 record search is relevant given the relatively recent date of the search, the proximity of the Lake Forest Sports Park and Recreation Center project to the Parkside at Baker Ranch project site, and the recent history of mining at the project site.

The review of historical registers showed no resources designated as local, state, or federal historic properties within 1 mile of the project area. The records search identified 76 previous cultural resource investigations within a 1-mile radius of the project area. Of these studies, 15 were conducted within the Lake Forest Sports Park and Community Center project area. The search identified 36 archaeological resources within a 1-mile radius of that project area (1 historic period resource and 35 prehistoric resources). During surveys for the Lake Forest Sports Park Community Center project, ICF International archaeologists identified previously recorded and newly identified resources that included four historic period resources, two prehistoric resources, and five prehistoric isolates. All of these resources were located south of the northeast portion of the Lake Forest Sports Park and Community Center project area, which had been mined prior to 2009.

Contact with Interested Parties

A Sacred Lands File Search and list of local Native American contacts was requested from the Native American Heritage Commission (NAHC). The NAHC responded on April 18, 2014, indicating that there are no reported sacred sites within the project area. The NAHC also provided a list of 13

Native American contacts to correspond with for further information. Contact letters were sent to the individuals identified by the NAHC on April 21, 2014. The letters described the project and requested any information or concerns about Native American cultural resources relative to the proposed project. John Tommy Rosas of the Tongva Ancestral Territorial Tribal Nation replied and stated that he was opposed to the project and would provide additional information at a later date. No further information has been received from Mr. Rosas. A second response was received via telephone by Joyce Perry of the Juaneño Band of Mission Indians, Acjachemen Nation who stated her tribe has no concerns about the project if there is no potential for the project to encounter Native American resources. As of September 9, 2014, no additional information has been received.

Government Code Section 65352.3 Consultation

The City began the Government Code Section 65352.3 Consultation process by contacting the NAHC on January 28, 2014. The NAHC provided a list of tribes with whom the City must consult. On February 5, 2014, the City sent a letter to each of these tribes, inviting them to enter into consultation regarding the General Plan Amendment. As of May 5, 2014, the end of the 90-day response period, the City had received one response, from Andy Salas, Chairman of the Gabrieleño Band of Mission Indians/Kizh Nation. On February 27, 2014, Mr. Salas stated the project was within an area of known village sites and requested that a Native American monitor to be on site during ground disturbance. Consultation is currently ongoing with the Gabrieleño Band of Mission Indians/Kizh Nation.

Regulatory Setting

Federal

No federal regulations apply to the proposed project.

State

California Environmental Quality Act

CEQA requires the assessment of a proposed project's effects on cultural resources. Pursuant to CEQA, a historical resource is a resource listed or eligible for listing in the California Register of Historical Resources (CRHR). In addition, resources included in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historical resources under CEQA unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed or determined eligible for listing in the CRHR, or is not included in a local register or survey, shall not preclude a lead agency, as defined by CEQA, from determining that the resource may be a historic resource, as defined in California Public Resources Code Section 5024.1. CEQA applies to archaeological resources when 1) the archaeological resource satisfies the definition of a historic resource, or 2) the archaeological resource satisfies the definition of a unique archaeological resource. A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

- The archaeological resource contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information.

- The archaeological resource has a special and particular quality, such as being the oldest of its type or the best available example of its type.
- The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change." Certain properties, including those listed or formally determined eligible for listing in the National Register of Historic Places (NRHP) or designated as a California Historical Landmark (770 and higher) are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmark program, may be nominated for inclusion in the CRHR. A resource, either individually or as a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

- Criterion 1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- Criterion 2. It is associated with the lives of persons important in our past.
- Criterion 3. It embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of an important creative individual or possesses high artistic values.
- Criterion 4. It has yielded, or may be likely to yield, information important in history or prehistory.

Furthermore, under California Public Resources Code Section 4852(c), a cultural resource must retain integrity to be considered eligible for listing in the CRHR. Specifically, it must retain sufficient character to be recognizable as a historical resource and convey reasons for a determination of significance. Integrity is evaluated with regard to the retention of factors such as location, design, setting, materials, workmanship, feeling, and association. Cultural sites that have been affected by ground-disturbing activities, such as grazing and off-road vehicle use (both of which occur within the project site), often lack integrity because they have been directly damaged or removed from their original location, among other changes.

Typically, a prehistoric archaeological site in California is recommended eligible for listing in the CRHR based on its potential to yield information important in prehistory or history (Criterion 4). Important information includes chronological markers such as projectile point styles or obsidian artifacts that can be subjected to dating methods, or undisturbed deposits that retain their stratigraphic integrity. Sites such as these have the ability to address research questions.

California Historical Landmarks

California Historical Landmarks are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific, technical, religious, experimental, or other value and have been determined to have statewide historical significance by meeting at least

one of the criteria listed below. The resource also must be approved for designation by a county board of supervisors (or the city or town council in whose jurisdiction it is located), be recommended by the State Historical Resources Commission, and be officially designated by the director of California Department of Parks and Recreation. The specific standards now in use were first applied in the designation of California Historical Landmark 770. (Note that California Historical Landmark 770 and above are automatically listed in the CRHR.)

To be eligible for designation as a California Historical Landmark, a resource must meet at least one of the following criteria:

- It is the first, last, only, or most significant of its type in the state or within a large geographic region (northern, central, or southern California).
- It is associated with an individual or group having a profound influence on the history of California.
- It is a prototype for, or an outstanding example of, a period, style, architectural movement, or type of construction or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder.

California Points of Historical Interest

California Points of Historical Interest are sites, buildings, features, or events that have local (city or county) significance and anthropological, cultural, military, political, architectural, economic, scientific, technical, religious, experimental, or other value. Points of historical interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historic resource may be designated as both a landmark and a point. If a point is later granted status as a landmark, the point designation will be retired. In practice, the point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a California Point of Historical Interest, a resource must meet at least one of the following criteria:

- It is the first, last, only, or most significant of its type within the local geographic region (city or county).
- It is associated with an individual or group having a profound influence on the history of the local area.
- It is a prototype for, or an outstanding example of, a period, style, architectural movement, or type of construction or is one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

Native American Heritage Commission

California Public Resources Code Section 5097.91 established the NAHC, the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. California Public Resources Code Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Public Records Act

Sections 6254(r) and 6254.10 of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public related to "Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission." Section 6254.10 specifically exempts from disclosure requests for "records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency."

California Health and Safety Code Sections 7050.5 and 7052

California Health and Safety Code Section 7050.5 declares that in the event of the discovery of human remains outside a dedicated cemetery, all ground disturbance must cease and the county coroner must be notified. California Health and Safety Code Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

California Penal Code Section 622.5

California Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands, but specifically excludes the landowner.

California Public Resources Code Section 5097.5

California Public Resources Code Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

Government Code Section 65352.3 Consultation

Senate Bill 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to approvals and amendments of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Prior to the approval or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts on, cultural places on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code §65352.3).

Local

The City of Lake Forest General Plan contains goals, policies, and plans that are intended to guide land use and development decisions. The Recreation and Resources Element was designed to ensure the conservation of important historical, archaeological, and paleontological resources. Relevant policies are listed below.

- **Goal 4.0** Conservation of important historic, archaeological, and paleontological resources.
    - **Policy 4.1** Protect areas of important historic, archaeological, and paleontological resources.
    - **Policy 4.2** Identify, designate, and protect buildings or sites of historical significance.

According to the Recreation and Resources Element, historic structures will continue to be protected to give Lake Forest residents a sense of community heritage and historic values. To maximize the preservation of important historic resources, the City will assess development proposals for potential historic resource impacts according to the CEQA requirements. If a significant historic resource occurs on the Project Area and the proposed development will impact the resource, the City will either require that the project be modified to avoid impacting the resource or require measures to reduce the significance of the impact.

Subsurface archaeological evidence of the Acjachemem culture potentially occurred throughout the city. Much of the terrain has been modified by agricultural activities and development, which could have disturbed subsurface archaeological resources. Development proposals will be assessed for potential impacts to archaeological resources according to CEQA requirements. The City will require that significant impacts will either be avoided or mitigated, which may involve archaeological investigation and resource recovery.

Impact Analysis

Would the project:

a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

No Impact. Implementation of the proposed project would not cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. State CEQA Guidelines Section 15064.5 provides guidance on defining when an existing structure may be an historical resource. However, no buildings constructed during the historic period currently stand in the project study area. As noted above, available aerial photographs from 1938 to 1981 indicate that no buildings stood within the project site boundaries during that time period. There are no resources within the project study area that have the potential to be considered historical resources for the purposes of CEQA. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines Section 15064.5. No impact would occur.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

No Impact. Implementation of the proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5. As discussed above, over one million yards of material have been removed in association with mining activities in and

around the project site, reducing the grade approximately 20 to 75 feet. Paleontological monitoring of mining operations at the site between November 2002 and May 2004 determined that no further cultural resources surveying or monitoring of the site is necessary because all of the alluvial and colluvial deposits with any potential for containing cultural materials have been removed from the site (Appendix D). There is no potential for cultural resources to exist in the project area. No impact would occur.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-than-Significant Impact with Mitigation Incorporated. According to the Orange County paleontological sensitivity guidelines (Eisentraut and Cooper 2002), the project area has a very high paleontological sensitivity rating due to the Oso Member of the Tertiary-aged Capistrano Formation at the site. As a result of mining operations at the site, this geologic unit is exposed at the surface throughout much of the site and underlies Quaternary Young Fan Formation at the western portion of the site. Orange County paleontological sensitivity guidelines assign the Capistrano Formation the highest possible paleontological sensitivity rating of "very high." Fossils found within this geologic unit are considered highly significant and important for research and display. According to the Natural History Museum of Los Angeles County, any excavation in the Capistrano Formation is likely to encounter fossils. Any fossils present could be damaged or destroyed as a result of earthwork during project construction. Substantial damage to or destruction of fossils associated with the geologic units found at the project site would result in a potentially significant impact. For these reasons, the project would be subject to Mitigation Measure MM CUL-1. Implementation of this mitigation measure would result in a less-than-significant impact on unique paleontological resources.

MM CUL-1. Prior to issuance of a grading permit, an Orange County–certified professional paleontologist will be retained by the developer to provide professional paleontological services, which will include survey, education of construction workers, onsite construction monitoring, appropriate recovery, and reporting. This mitigation measure and the details included below must be included on the approved project grading plans.

- Before site preparation (including vegetation clearing) and project earthwork begin, the professional paleontologist will conduct a surface survey and salvage operation in all parts of the project site where paleontologically sensitive materials may be exposed at the surface. The survey and salvage will ensure that exposed paleontological materials are recovered and properly prepared and curated, or protected from damage using exclusion fencing or other appropriate means. Protection measures, such as temporary fencing or flagging around the fossil remains, will be designed and installed under the direction of the qualified paleontologist in consultation with the developer and City until the qualified paleontologist can safely salvage the fossil remains in a scientific manner. Without exception, the work will be conducted in conformance with the Orange County paleontological sensitivity guidelines (Eisentraut and Cooper 2002) and will meet the requirements for surface prospecting and surface collection.
- The developer will include in the scope of work for the paleontologist that all construction personnel receive training provided by the paleontologist to ensure recognition of fossil materials in the event any are discovered during earthwork.

- The paleontologist will conduct full-time monitoring for each concentrated grading activity during the course of project construction (Eisentraut and Cooper 2002). If a project has more than one area of concentrated grading activity, more certified monitors may be required. The monitor will have authority to divert grading away from exposed fossils temporarily in order to recover the fossil specimens.
- If fossil remains are discovered during project-related activities, activities in the vicinity of the find will stop immediately until the paleontologist can assess the nature and importance of the find and recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials to be housed in an appropriate museum or university collection and may also include preparation of a report for publication. The work will be conducted in conformance with the Orange County paleontological sensitivity guidelines (Eisentraut and Cooper 2002) and meet the requirements for recovery, salvage, laboratory preparation, preparation to the point of taxonomic identification, transferal, and preparation and submittal. The City and developer will be responsible for ensuring that recommendations regarding treatment and reporting are implemented; this will be accomplished by describing lines of communication and authority between the paleontologist, City and developer, decision thresholds, and reporting procedures in the approved project grading plans.
- Fossils recovered will be prepared, identified, and catalogued before donation to the accredited repository designated by the City of Lake Forest.
- The retained qualified paleontologist will prepare a final report to be filed with the City. If applicable, the report will include a list of specimens recovered, documentation of each locality, interpretation of fossils recovered and will include all specialists' reports as appendices. The report will be required despite the presence or absence of fossils.

d. Disturb any human remains, including those interred outside of formal cemeteries?

Less-than-Significant Impact. As stated above, over one million yards of material have been removed in association with mining activities in and around the project site, reducing the grade approximately 20 to 75 feet. During the course of these mining operations, all of the alluvial and colluvial deposits with any potential for containing cultural materials have been removed from the project site. For these reasons, it appears that there is no potential for prehistoric or historic-period human remains to be encountered during construction. In the unlikely event that more recent human remains are discovered, the project construction manager is required to comply with Health and Safety Code Section 7050.5, which states that if human remains are discovered during construction, no further disturbance shall occur in the area of the discovery and the area must be protected until the County Coroner inspects the discovery. Because existing laws and regulations would ensure impacts to any buried human remains would be reduced to a level below significance, the proposed project's impact related to the potential of encountering human remains would be less than significant.

VI. Geology and Soils	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
2. Strong seismic ground shaking?	☐	☒	☐	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
4. Landslides?	☐	☒	☐	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☒	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Environmental Setting

The geology and soils information contained herein is based on the January 2012 *Preliminary Geotechnical Evaluation of Conceptual Plan for Proposed Development of the Baker Ranch Property, City of Lake Forest, California* as well as the July 2013 *Geotechnical Recommendations and Testing Results of On-site Material for the Proposed Slope Grading at Baker Ranch Property, City of Lake Forest California,* (Appendix E) both prepared by LGC Geotechnical, Inc.

The proposed project site is located within the foothills of the Santa Ana Mountains. The site is generally flat to gently sloping and has been carved down due to historical site uses (former El Toro Materials). The site has a steep cut slope along the northern boundary that forms a small ridgeline.

Some stockpiles, limited zones of vegetation, and a small detention basin currently exist at the southern perimeter of the central flat area of the site.

Onsite Soils and Geologic Units

The onsite geologic unit consists of Oso Member bedrock of the Tertiary-aged Capistrano Formation (Tco). A zone of Quaternary young fan deposits (Qyf) exists at the western portion of the site (prior to the mining activities conducted on site, these deposits were found throughout). Also, limited areas of miscellaneous surficial materials including undocumented fill, stockpiles of materials and tailings, and areas of colluvium are expected to be found in various locations throughout the proposed project area.

Faults

The proposed project is not located within an Alquist-Priolo Earthquake Fault Zone. There are three major active faults that could produce secondary effects from strong seismic shaking in the proposed project area. The closest fault is the Elsinore Fault, located approximately 10 miles from the site. The other two faults include the Newport Inglewood Offshore and the Whittier Faults.

Liquefaction

Zones with a potential for liquefaction were not identified within the limits of proposed project footprint. Based on the proposed finish grades, depth of compacted fill, and lack of a shallow groundwater table, the potential for post construction liquefaction and liquefaction-induced settlement is considered very low in the project area.

Soil Stability and Erosion

Due to the low cohesion value of Capistrano Formation and Oso Member material found on site, surficial stability for newly constructed cut and fill slopes during heavy rainfall could pose a risk.

Regulatory Setting

State

Alquist-Priolo Act

The primary purpose of the Alquist-Priolo Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. The law requires the state geologist to establish regulatory zones (known as Earthquake Fault Zones or Alquist-Priolo Zones) around the surface traces of active faults and issue locational maps to all affected cities, counties, and state agencies for their use in safe construction. Before a project may be permitted, a geologic investigation is required to demonstrate that proposed buildings would not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (generally 50 feet) (California Department of Conservation 2013).

Seismic Hazards Mapping Act of 1990

The California State Seismic Hazards Mapping Act of 1990 addresses earthquake hazards other than surface fault rupture, including liquefaction and seismically induced landslides. The state establishes city, county, and state agency responsibilities for identifying and mapping seismic hazard zones and mitigating seismic hazards to protect public health and safety. The act requires the California Department of Conservation, Division of Mines and Geology, to map seismic hazards and establishes specific criteria for project approval that apply within seismic hazard zones, including the requirement for a geological technical report.

California Building Code

The California Code of Regulations (CCR), Title 24 (California Building Code [CBC]) applies to all applications for building permits. The CBC (also called the California Building Standards Code) has incorporated the International Building Code (IBC), which was first enacted by the International Conference of Building Officials in 1927 and which has been updated approximately every 3 years since that time. The current version of the CBC (2013) became effective on January 1, 2014.

Local agencies must ensure that development in their jurisdictions complies with guidelines contained in the CBC. Cities and counties can, however, adopt building standards beyond those provided in the code.

State Water Resources Control Board Construction Storm Water Program

Dischargers whose projects disturb 1 or more acres of soil or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit under Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling, or excavation. The Construction General Permit requires the completion and implementation of a site-specific Storm Water Pollution Prevention Plan (SWPPP).

Local

City of Lake Forest General Plan-Safety and Noise Element

Natural Hazards and Human Activity Hazards

Risk associated with certain natural hazards, such as geologic conditions, seismic activity, fire, and flooding can be minimized through appropriate planning and preparedness actions. The risk of exposure to such hazards can be reduced to acceptable levels through proper development engineering and building practices.

- **GOAL 1.0:** Reduction in the risk to the community from hazards associated with geologic conditions, seismic activity and flooding.
    - **Policy 1.1:** Reduce the risk of impacts from geologic and seismic hazards.
    - **Policy 1.2:** Protect the community from flooding hazards.

Impact Analysis

Would the project:

a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. No active faults are in the vicinity of the project, and thus fault rupture is unlikely to occur during project implementation. Additionally, the project area is not located within a State of California Alquist-Priolo Earthquake Fault Hazard Zone (Appendix E), and project features do not include the addition of new structures meant for human occupancy within 50 feet of the nearest fault. The site is located approximately 10 miles from the nearest fault—Elsinore Fault. As such, people or structures would not be exposed to substantial adverse effects from a rupture of a known earthquake fault. No impact would occur.

2. Strong seismic ground shaking?

Less-than-Significant Impact with Mitigation Incorporated. As with most southern California regions, the project site would be subject to strong ground shaking in the event of a major earthquake. Strong seismic shaking effects to the proposed project area (resulting from large earthquakes originating from nearby faults) can include ground lurching and shallow ground rupture, soil liquefaction, dynamic settlement, seiches, and tsunamis. These effects are a possibility throughout the Southern California region and are dependent on the distance between the proposed project area and the causal fault and onsite geology. The closest major active faults that could produce these effects in the proposed project area include the Elsinore, Newport Inglewood Offshore, and Whittier Faults. The Elsinore fault is the closest fault (approximately 10 miles from the proposed project area) and as a result, the proposed project could be subject to future seismic shaking and strong ground motion resulting from seismic activity, and damage could occur.

Construction of the proposed project would be subject to applicable ordinances, goals, and policies of the 2013 CBC (CCR Title 24), recommendations contained in the geotechnical study (Appendix E), and the City's General Plan, which would reduce anticipated impacts related to the proximity of earthquake faults by requiring the project to be built to withstand seismic ground shaking. Mitigation Measure MM GEO-1 is required to ensure the recommendations contained in the project's geotechnical evaluation are implemented. After mitigation is incorporated, impacts would be less than significant.

MM GEO-1. The project applicant will implement the recommendations contained in the Preliminary Geotechnical Evaluation and Geotechnical Recommendation for Slope Grading, both prepared by LGC Geotechnical, Inc. to reduce geologic hazards during implementation of the proposed project. The recommendations include:

- Earthwork on site be performed in accordance with future grading plan review report(s), the City of Lake Forest grading requirements, and the General Earthwork and Grading Specifications for Rough Grading included in the geotechnical evaluation.

- Prior to grading of areas to receive structural fill or engineered improvements, the areas will be cleared of surface obstructions and potentially compressible material (such as stockpiled materials, young fan deposits, colluvium, and vegetation). Vegetation and debris will be removed and properly disposed of off site.
- All potentially compressible materials not removed by the planned design cuts will be excavated to competent material and replaced with compacted fill soils.
- Areas prepared to receive structural fill and/or other surface improvements will be scarified, brought to at least optimum-moisture content, and recompacted to at least 90% relative compaction
- Backcuts and key excavations will be geologically mapped by the geotechnical consultant during excavation to confirm the anticipated conditions. If adverse joints, fractures, and/or bedding are exposed, additional analysis and/or remediation measure may be required.
- Positive drainage of surface water away from structures will be employed as water should not be allowed to pond adjacent to buildings or to flow freely down a graded slope.
- Onsite soils shall be properly blended during rough grading to meet the Caltrans of a minimum 12 percent fines content with an average minimum fines content of 15 percent for soils within the outer 15 feet of the perimeter slope face. Additional fines content testing should be performed during construction in order to document the actual fines content of slope materials.

3. Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. Implementation of the proposed project would not expose people or structures to substantial adverse effects from seismic-related ground failure, including liquefaction. Liquefaction occurs when saturated, low-density, loose materials (e.g., sand or silty sand) are weakened and transformed from a solid to a near-liquid state as a result of increased pore water pressure. The increase in pressure is caused by strong ground motion from an earthquake. Liquefaction more often occurs in areas underlain by silts and fine sands and where shallow groundwater exists.

The Elsinore fault could potentially cause seismic shaking and strong ground motion at the proposed project site. However, according to the geotechnical study conducted by LGC Geotechnical Inc. (Appendix E), potential for liquefaction was not observed within the project's proposed grading limits. Based on the proposed finish grades, depth of compacted fill, and lack of a shallow ground-water table, the potential for liquefaction and liquefaction-induced settlement is considered very low. Therefore, people or structures would not be exposed to substantial adverse effects from seismic-related ground failure, including liquefaction. Impacts would be less than significant.

4. Landslides?

Less-than-Significant Impact with Mitigation Incorporated. Implementation of the proposed project would not expose people or structures to substantial adverse effects from seismic-related ground failure, including landslides. As mentioned, most of the proposed project footprint's topography is generally flat to gently sloping, making landslide potential unlikely. Additionally, re-grading is expected to occur in areas where over steepened slopes occur (in the north-central and northwest portions of the property). Construction of the proposed project would be subject to applicable ordinances, goals, and policies of the 2013 CBC (CCR Title 24), recommendations contained in the geotechnical studies, and the City's General Plan, which would reduce potential geologic hazard impacts to less than significant, including those related to landslides. However,

there is a potential for surficial slope instability associated with cut and fill slopes constructed with materials available on project site. This is due to the low cohesion of the materials on site. Mitigation Measure MM GEO-1 is required to ensure the recommendations contained in the project's geotechnical evaluations are implemented. This includes the recommendations found in Appendix D of the geotechnical evaluation which cover general earthwork and grading specifications to ensure slope stability as well as planting vegetation on cut and fill slopes immediately as vegetation has a positive effect on surficial stability as well as the recommendation of the Geotechnical Recommendations for grading of the slope on the northern project boundary. After mitigation is incorporated, impacts from landslides would be less than significant.

b. Result in substantial soil erosion or the loss of topsoil?

Less-than-Significant Impact. Implementation of the proposed project would not result in substantial soil erosion or the loss of topsoil. Erosion is a condition that could adversely affect development on any site. Construction activities could exacerbate erosion conditions by exposing soils and adding water to the soil from irrigation and runoff from new impervious surfaces. The General Construction Permit, which was adopted by the State Water Resources Control Board as Water Quality Order 2009-0009-DWQ (effective July 1, 2010), is required for soil disturbance activities that would be greater than 1 acre. The project is expected to disturb an area greater than 1 acre and thus would be subject to the requirements of the General Construction Permit. As such, several best management practices (BMPs) would be employed during construction, such as sediment and erosion control measures to prevent pollutants from leaving the site. Finally, City Municipal Code Title 8: Buildings and Construction, Chapter 8.3, and Title 15: Water and Sewers, Chapter 15.14 would be complied with as part of the project to control erosion and reduce stormwater runoff. Therefore, both potential short-term construction and long-term operational impacts related to soil erosion or loss of topsoil would be less than significant.

c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less-than-Significant Impact with Mitigation Incorporated. As discussed in the geotechnical evaluation, there is some risk of surficial instability during periods of heavy rainfall for recently constructed cut and fill slopes containing either Capistrano Formation - Oso Member bedrock or fill derived from the Oso Member. These materials have a very low cohesion value, and during periods of heavy rain extensive erosion could occur (this typically can occur within the first 2 years after construction and prior to the establishment of deep rooted vegetation). Recommendations included in the geotechnical evaluation such as (but not limited to) planting of vegetation, grading only after the rainy season, and use of jute netting would reduce potential impacts related to surficial stability to less than significant.

Alternatively, the potential for onsite landslides is considered low because most of the onsite topography is flat, and based on depth of compacted fill and lack of a shallow ground-water table, the potential for post-construction liquefaction, liquefaction-induced settlement, and lateral spreading are also considered very unlikely.

Also, construction of the proposed project would be subject to applicable ordinances, goals, and policies of the 2013 CBC (CCR Title 24), recommendations contained in the geotechnical study mentioned above under a.4, Landslides, and the City's General Plan, which would further reduce the potential for impacts related to geologic hazard, including those related to unstable soils. Mitigation

Measure MM GEO-1 is required to ensure the recommendations contained in the project's geotechnical evaluation are implemented. After mitigation is incorporated that results in stabilization of the soils, impacts from unstable soil would be less than significant.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less-than-Significant Impact with Mitigation Incorporated. Implementation of the proposed project would not be located on expansive soil, creating substantial risks to life or property. Expansive soils are fine-grained soils (generally high-plasticity clays) that can undergo a significant increase in volume with an increase in water content as well as a significant decrease in volume with a decrease in water content. Changes in the water content of highly expansive soils can result in severe distress for structures constructed on or against the soils. Expansion potential testing conducted during the geotechnical evaluation indicated an expansion index of onsite soils between 0 and 1, which indicates the onsite soils have very low expansion potential. Furthermore, construction of the proposed project would be subject to applicable ordinances, goals, and policies of the 2013 CBC (CCR Title 24), recommendations contained in the geotechnical study, and the City's General Plan, which would reduce potential geologic hazard impacts, including those related to expansive soils, to less than significant. Mitigation Measure MM GEO-1 is required to ensure the recommendations contained in the project's geotechnical evaluation are implemented. After mitigation is incorporated, impacts from expansive soils would be less than significant.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

No Impact. The existing septic tanks would be removed with the project's implementation, and no septic tanks or alternative wastewater disposal systems are proposed as part of the project. Therefore, soils would not be required to support septic tanks once the project is implemented. No impact would occur.

VII. Greenhouse Gas Emissions	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☒	☐	☐

Environmental Setting

According to EPA, a greenhouse gas (GHG) is any gas that absorbs infrared radiation in the atmosphere. This absorption traps heat within the atmosphere, maintaining the earth's surface temperature at a level higher than would be the case in the absence of GHGs. Increasing levels of GHGs resulting from human activities have increased levels of most of these naturally occurring gases in the atmosphere, which has and will continue to result in an increase in the temperature of the earth's lower atmosphere, a phenomenon that is commonly referred to as global warming. Warming of the earth's lower atmosphere induces a suite of additional changes, including changes in global precipitation patterns; ocean circulation, temperature, and acidity; global mean sea level; species distribution and diversity; and the timing of biological processes. These large-scale changes are collectively referred to as global climate change.

The GHGs listed by the Intergovernmental Panel on Climate Change (IPCC) include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) (Intergovernmental Panel on Climate Change 2007). California law and the State CEQA Guidelines contain a similar definition of GHGs (Health and Safety Code Section 38505(g); 14 CCR Section 15364.5). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources.

To simplify reporting and analysis, GHGs are commonly defined in terms of a global warming potential (GWP). The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2 equivalents (CO_2e). The GWP of CO_2 is, by definition, 1. GHG emissions are quantified and presented in terms of metric tons (MT) of CO_2e emitted per year.

Regulatory Setting

State CEQA Guidelines Section 15064.4 provides guidance to lead agencies for determining the significance of impacts from GHG emissions, and Section 15064.4(a) provides that a lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. State CEQA Guidelines Section 15064.4(b) also provides that, when assessing the significance of impacts from GHG emissions, a lead agency should consider (1) the extent to which the project may increase or reduce GHG emissions as compared to existing conditions, (2) whether the project's GHG emissions exceed a threshold of significance that the lead agency determines applies to the project, and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Orange County and the City of Lake Forest have not yet completed a climate action plan (CAP) to reduce GHG emissions within the jurisdictional boundaries. CAPs typically include a number of GHG reduction measures that target GHG emissions associated with transportation, building energy, waste, water, and other activities within a municipality.

The State CEQA Guidelines do not provide numeric or qualitative thresholds of significance for evaluating GHG emissions. While the SCAQMD does not have an adopted threshold for assessing the significance of GHG emissions, the draft threshold, or efficiency metric, currently recommended is 4.8 MT CO_2e per service population per year. Service population is defined as the employees or residents who work or live at the development. The efficiency metric applies to a project's operational emissions, and no similar metric is currently recommended for construction emissions. Instead, the SCAQMD's draft guidance recommends amortizing total construction emissions and adding the annual emissions to the total operational emissions.

The AB 32 Scoping Plan details specific GHG emissions-reduction measures that target specific GHG emissions sources. The scoping plan considers a range of actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms (e.g., a cap-and-trade system), including mobile-source emissions-reduction measures (Pavley, Low Carbon Fuel Standard [LCFS], vehicle efficiency measures); energy production–related emissions-reduction measures (natural gas transmission and distribution efficiency measures, natural gas extraction efficiency measures); and the renewable portfolio standard (RPS) (electricity).

Impact Analysis

Would the project:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less-than-Significant Impact. Construction of the proposed project would result in short-term generation of GHG emissions from construction equipment exhaust and energy consumption. Construction GHG emissions were calculated in the air quality technical report associated with the project. The expected GHG emissions resulting from project construction are shown in Table 3-10. It should be noted that emissions resulting from the architectural coating phase are due to equipment exhaust and energy consumption, as there would be minimal off-gassing of GHGs from this phase. As shown in Table 3-10, total construction emissions over the entire construction period would be 1,470 MT CO_2e.

Table 3-10. Proposed Project GHG Construction Emissions

	Total Regional Pollutant Emissions (MT/year)			
Construction Phase	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
Demolition	42	0.01	0	42
Site Preparation	80	0.012	0	80
Grading	210	0.04	0	210
Building Construction	510	0.085	0	510
Architectural Coating	57	0.0052	0	57
Paving	39	0.011	0	39
Total Emissions During Entire Construction Period	-	-	-	1,470
Annual Construction Emissions, Amortized Over 30 Years	49	0.0084	0	49

Source: Appendix B.

CH_4 = methane MT/year = metric tons per year
CO_2 = carbon dioxide N_2O = nitrous oxide
CO_2e = carbon dioxide equivalent

Area and mobile sources as part of the proposed project's operational phase would generate GHG emissions over the long-term period. Landscaping and maintenance equipment exhaust, natural gas combustion, waste decomposition, water conveyance, and vehicle trips are the primary sources of operational GHG emissions that would occur. Changes in GHG emissions due to vegetation removal were not assessed for this analysis, as not enough detail is available to determine the change in carbon sequestration that would occur. It was also assumed that CFC emissions would not be generated as a direct result of the proposed project.

Emissions in the first year of operation generated by the proposed project and the emissions generated by the existing land use are presented and compared in Table 3-10. Because the existing land use and its emissions are part of the baseline, the net change in emissions due to the proposed project is also presented in Table 3-11. As shown, the proposed project would result in an increase of 3,454 MT CO_2e relative to the baseline conditions.

Table 3-11. Proposed Project GHG Operational Emissions

	Pollutant Emissions (MT/year)					
Source	**Bio-CO_2**	**NBio-CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Landscape Plant Storage Area	110	1,000	1,100	6.9	0.0049	1,300
Construction Emissions amortized over 30 years	0	49	49	0.0084	0	49
Operational Emissions						
Area	0	64	64	0.0054	0.0011	65
Energy	0	890	890	0.031	0.012	900
Mobile	0	3,500	3,500	0.14	0	3,500

Source	Pollutant Emissions (MT/year)					
	Bio-CO_2	**NBio-CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Waste	60	0	60	3.5	0	130
Water	5.2	93	99	0.54	0.013	110
Total Project Emissions	65	4,547	4,547	4.2	0.026	4,705
Net Emissions Change	-45	3,596	3,562	-2.7	0.021	3,454

Source: Appendix B.

Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two significant digits.

Bio-CO_2 = biologically generated CO_2 MT = metric tons

CH_4 = methane N_2O = nitrous oxide

CO_2 = carbon dioxide NBio-CO_2 = Non-biologically generated CO_2

CO_2e = carbon dioxide equivalent

There would be approximately 735[2] persons present at the development once it is operational. Thus, the net change in GHG emissions with the proposed project would be 4.7 MT CO_2e/service population/year[3]. Because the emissions would be below the SCAQMD's efficiency metric of 4.8 MT CO_2e/service population/year, the construction and operational emissions would not have a significant effect on the environment.

b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-than-Significant Impact with Mitigation Incorporated. The proposed project would result in an increase in GHG emissions relative to the current baseline conditions. To lessen the impact on global climate change, the proposed project would incorporate a number of mitigation strategies into the design and construction of the project. These strategies, part of Mitigation Measure MM GHG-1, would ensure that the project's emissions are reduced to the lowest feasible level, and they would ensure that the project would comply with the reduction goals of ARB's Scoping Plan. There are a number of strategies in the Scoping Plan that the project would comply with, and these strategies are presented in Table 3-12.

MM GHG-1. The proposed project will implement the following design features and construction strategies to reduce GHG emissions in the sectors below, as determined feasible by the City as lead agency under CEQA.

Construction and Building Materials

- Use locally produced and/or manufactured building materials for at least 10% of the construction materials used for the project.

[2] The population number of 735 is derived from CalEEmod and was used in the Project's Air Quality and Greenhouse Gas Technical Report. Although the number differs from the 737 population estimate derived from using the California Department of Finance, it is a more conservative estimate because the service population thresholds are based on total GHG emissions divided by the project population. The lower the population, the higher the service ratio would be. Therefore, 735 would have a slightly higher ratio than 737.

[3] 3,454 MT CO_2e/735 service population = 4.7 MT CO_2e/service population

- Recycle/reuse at least 50% of the demolished and/or grubbed construction materials (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard) if feasible.
- Use "Green Building Materials," such as those materials that are resource-efficient and are recycled and manufactured in an environmentally friendly way, for at least 10% of the project.

Energy Efficiency Measures

- Design all project buildings to exceed the California Building Code's Title 24 energy standard by 20%, including, but not limited to, any combination of the following:
  - Increase insulation such that heat transfer and thermal bridging is minimized.
  - Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption.
  - Incorporate ENERGY STAR or better rated windows, space heating and cooling equipment, light fixtures, appliances, or other applicable electrical equipment.
- Install efficient lighting and lighting control systems. Use daylight as an integral part of the lighting systems in buildings.
- Install light-colored "cool" roofs and cool pavements.
- Install energy-efficient heating and cooling systems, appliances and equipment, and control systems.
- Install solar lights or light-emitting diodes for outdoor lighting or outdoor lighting that meets the City of Lake Forest City Code.

Water Conservation and Efficiency Measures

- Devise a comprehensive water conservation strategy appropriate for the project and its location. The strategy may include the following, plus other innovative measures that may be appropriate:
  - Create water-efficient landscapes within the development.
  - Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.
  - Use reclaimed water, if available, for landscape irrigation within the project. Install the infrastructure to deliver and use reclaimed water, if available.
  - Design buildings to be water-efficient. Install water-efficient fixtures and appliances, including low-flow faucets, dual-flush toilets, and waterless urinals.
  - Restrict watering methods (e.g., prohibit systems that apply water to nonvegetated surfaces) and control runoff.

Solid Waste Measures

- To facilitate and encourage recycling to reduce landfill-associated emissions, among others, the project will provide trash enclosures that include additional enclosed area(s) for collection of recyclable materials. The recycling collection area(s) will be located within, near, or adjacent to each trash and rubbish disposal area. The recycling collection area will

be a minimum of 50% of the area provided for the trash/rubbish enclosure(s) or as approved by the waste management department of the City of Lake Forest.

- Provide employee education on waste reduction and available recycling services.

Transportation Measures

- To facilitate and encourage nonmotorized transportation, bicycle racks will be provided in convenient locations to facilitate bicycle access to recreation components of the project area. The bicycle racks will be shown on project landscaping and improvement plans submitted for Planning Department approval and will be installed in accordance with those plans.
- Provide pedestrian walkway and connectivity requirements.

Table 3-12. Scoping Plan GHG Reduction Strategies and Project Compliance

Strategy	Project Compliance
Energy Efficiency Measures	
Energy Efficiency. Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities). Renewables Portfolio Standard. Achieve a 33% renewable energy mix statewide. Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**Compliant with Mitigation Incorporated.** The proposed project will comply with the updated Title 24 standards, including the 2013 CBC, for building construction. In addition, the project would implement Mitigation Measure MM GHG-1, including measures to incorporate energy-efficient building design features.
Water Conservation and Efficiency Measures	
Water Use Efficiency. Continue efficiency programs and use cleaner energy sources to move and treat water. Approximately 19% of all electricity, 30% of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions.	**Compliant.** The project would implement Mitigation Measure MM GHG-1, including measures to increase water use efficiency.
Solid Waste Reduction Measures	
Increase Waste Diversion, Composting, and Commercial Recycling, and Move Toward Zero-Waste. Increase waste diversion from landfills beyond the 50% mandate to provide for additional recovery of recyclable materials. Composting and commercial recycling could have substantial GHG reduction benefits. In the long term, zero-waste policies that would require manufacturers to design products to be fully recyclable may be necessary.	**Compliant.** Data available from the CIWMB indicates that the City of Lake Forest (Orange County) has not achieved the 50% diversion rate. The proposed project would implement Mitigation Measure MM GHG-1, including measures to increase solid waste diversion, composting, and recycling.
Transportation and Motor Vehicle Measures	
Vehicle Climate Change Standards. AB 1493 (Pavley) required the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles and light-duty trucks. Regulations were adopted by ARB in September 2004.	**Compliant.** The project does not involve the manufacture of vehicles. However, vehicles that are purchased and used within the project site would comply with any vehicle and fuel standards that ARB adopts.

Strategy	Project Compliance
Light-Duty Vehicle Efficiency Measures. Implement additional measures that could reduce light-duty GHG emissions. For example, measures to ensure that tires are properly inflated can both reduce GHG emissions and improve fuel efficiency.	**Compliant.** See compliance discussion for Vehicle Climate Change Standards.
Adopt Heavy- and Medium-Duty Fuel and Engine Efficiency Measures. Regulations to require retrofits to improve the fuel efficiency of heavy-duty trucks that could include devices that reduce aerodynamic drag and rolling resistance. This measure could also include hybridization of and increased engine efficiency of vehicles.	**Compliant.** See compliance discussion for Vehicle Climate Change Standards.
Low Carbon Fuel Standard. ARB identified this measure as a Discrete Early Action Measure. This measure would reduce the carbon intensity of California's transportation fuels by at least 10% by 2020.	**Compliant.** See compliance discussion for Vehicle Climate Change Standards.
Regional Transportation-Related Greenhouse Gas Targets. Develop regional GHG emissions reduction targets for passenger vehicles. Local governments will play a significant role in the regional planning process to reach passenger vehicle GHG emissions reduction targets. Local governments have the ability to directly influence both the siting and design of new residential and commercial developments in a way that reduces GHGs associated with vehicle travel.	**Compliant.** Specific regional emission targets for transportation emissions do not directly apply to this project; regional GHG reduction target development is outside the scope of this project. The project would comply with any plans developed by the City of Lake Forest and Orange County.
Measures to Reduce High-GWP Gases. ARB has identified Discrete Early Action measures to reduce GHG emissions from the refrigerants used in car air conditioners, semiconductor manufacturing, and consumer products. ARB has also identified potential reduction opportunities for future commercial and industrial refrigeration, changing the refrigerants used in auto air conditioning systems, and ensuring that existing car air conditioning systems do not leak.	**Compliant.** New products used or serviced on the project site (after implementation of the reduction of GHGs) would comply with future ARB rules and regulations.

Source: Appendix B.

AB = Assembly Bill
ARB = California Air Resources Board
CBC = California Building Code
CIWMB = California Integrated Waste Management Board
GHG = greenhouse gas
GWP = Global Warming Potential

As discussed in Table 3-12, the proposed project would comply with a number of measures in ARB's Scoping Plan, and emissions from the project would be below the SCAQMD's efficiency metric. Thus, the project would be consistent with the AB 32 goal of reducing statewide GHG emissions to 1990 levels by 2020. Consequently, it is reasonable to conclude that the proposed project would not conflict with a plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This impact is less than significant with mitigation.

VIII. Hazards and Hazardous Materials	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e. Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Environmental Setting

The hazardous materials information contained herein is based on the January 2014 *Phase I Environmental Site Assessment 28201 Rancho Parkway Lake Forest, CA 92630* (Appendix A) prepared by Dudek.

The site currently consists of equipment storage and vehicle storage for approximately 81 tenants. The eastern and northern portions of the property are occupied by landscaping companies and container landscaping plants. Vehicle and truck parking leased spaces are located in the central portions of the property. The northwestern portion of the subject property is occupied by stone and drilling companies, while the majority of the southwestern portion of the property is currently vacant. Additionally, various construction companies and a landscaping company occupy the south central portion of the property.

Hazardous Materials

A total of seven aboveground storage tanks (ASTs) are located throughout the subject property. According to the Phase I Environmental Site Assessment (ESA), four of the seven ASTs are connected to fuel dispensers and presumed to contain petroleum hydrocarbons. Two other ASTs are tanks used for water storage. The remaining AST features secondary containment, but no information pertaining to the contents of the AST was available during the completion of the Phase I ESA. Furthermore, chemical storage containers were observed in various spaces throughout the subject property (varying in amounts from 5 gallons to 55 gallons). In addition to the ASTs and the chemical storage containers, plastic totes containing polyurethane resin were observed on the central portion of the property. No recognized environmental conditions were identified.

Hazardous Materials Database Results

Onsite

El Toro Materials Co., which formerly operated the sand and gravel mine on the proposed project site, was listed in two federal database Environmental Data Records, Inc. (EDR) records, the US MINES and FINDS databases. El Toro Materials Co. was identified in the FINDS database due to mining activities air emissions and was listed in the MINES database as a sand mine and plant. Violations were issued in 2003 and 2005 and were abated by 2006. No other violations were noted.

Offsite

Four sites within the specified search distances were identified during the EDR database search. They were:

- The ARCO site, 29080 Portola Parkway. Located between 1/8 and 1/4 mile south of the proposed project. The facility was identified on the Resource Conservation and Recovery Act of 1976 (RCRA) Non-Generator, FINDS, Underground Storage Tank (UST), and EDR US Hist Auto Station databases. No violations were reported.
- The Mobil site, 27252 Portola Parkway. Located between 1/8 and 1/4 mile north of the proposed project. The facility was identified on the UST and EDR US Hist Auto Station databases. No violations were reported.
- The Orange County Fire Station site, 19811 Pauling. Located between 1/4 and 1/2 mile north of the proposed project. The facility was identified in the Leaking Underground Storage Tanks database as having a soil only release. The site was granted closure on March 18, 2003.
- The corner of Los Alisos Boulevard and Santa Margarita is located between 1/2 and 1 mile southeast of the subject property. The site was listed in the Notify 65 database. No violations were recorded.

Nearby Schools

The nearest school to the proposed project site, Heritage Montessori School, is approximately 0.2 mile to the southwest.

Nearby Airports

The proposed project area is not within an airport land use plan area or within 2 miles of a public airport or public use airport. The closest airport is the John Wayne Airport, approximately 12 miles to the west (John Wayne Airport 2014). Fullerton Municipal Airport is approximately 24 miles to the northwest, and Chino Airport (San Bernardino County Airport Land Use Commission 1991) is approximately 22 miles to the north. There are no private airstrips in the vicinity of the proposed project; however, a heliport is less than 0.5 mile from the project site at the Oakley headquarters. It is a private facility and is used infrequently.

Emergency Planning

The Orange County Sheriff's Department's Emergency Management Division provides emergency management and preparedness services to the unincorporated areas of Orange County and supports the efforts of the Orange County Operational Area (OA). The OA encompasses all County departments and agencies, public and private organizations, and the general population within the boundaries of Orange County. The Sheriff-Coroner Department is the lead agency in matters of emergency preparedness and disaster response.

Wildfire Risk

According to the figure "Fire Hazards Severity Zones in LRA – Orange County" from the Fire and Resource Assessment Program, California Department of Forestry and Fire Protection (CalFire), the proposed project is not within a High Fire Risk Area (CalFire 2011). The Whiting Ranch Wilderness Park, which is considered a Very High Fire Hazard Severity Zone, is just to the north (approximately 2,500 feet) of the proposed project location.

Regulatory Setting

Federal

Federal Toxic Substances Control Act/Resource Conservation and Recovery Act/Hazardous and Solid Waste Act

The Federal Toxic Substances Control Act (1976) and the RCRA established an EPA-administered program to regulate the generation, transport, treatment, storage, and disposal of hazardous waste. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous.

Cortese List

U.S. Code 65962.5 (commonly referred to as the Cortese List) includes Department of Toxic Substances Control (DTSC)-listed hazardous waste facilities and sites, Department of Health Services lists of contaminated drinking water wells, sites listed by the State Water Resources Control Board as having underground storage tank leaks or a discharge of hazardous wastes or materials

into the water or groundwater, and lists from local regulatory agencies of sites with a known migration of hazardous waste/material.

Department of Transportation Hazardous Materials Regulations (49 CFR 100–185)

U.S. Department of Transportation (DOT) Hazardous Materials Regulations cover all aspects of hazardous materials packaging, handling, and transportation. Parts 107 (Hazard Materials Program), 130 (Oil Spill Prevention and Response), 172 (Emergency Response), 177 (Highway Transportation), would all apply to the Proposed Project and/or surrounding uses.

State

California Health and Safety Code

DTSC, a department of the California Environmental Protection Agency, is the primary agency in California for regulating hazardous waste, cleaning up existing contamination, and finding ways to reduce the amount of hazardous waste produced in California. DTSC regulates hazardous waste primarily under the authority of the Federal RCRA and the California Health and Safety Code (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Division 20, Chapter 6.5 of the California Health and Safety Code deals with hazardous waste control through regulations pertaining to transportation, treatment, recycling, disposal, enforcement, and permitting of hazardous waste. Division 20, Chapter 6.10 contains regulations applicable to the cleanup of hazardous materials releases. Title 22, Division 4.5 contains the environmental health standards for the management of hazardous waste. This includes standards for identification of hazardous waste (Chapter 11) and standards applicable to transporters of hazardous waste (Chapter 13).

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) (California Health and Safety Code, Chapter 6.11, Sections 25404–25404.9)

This program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the environmental and emergency response programs and provides authority to the Certified Unified Program Agency (CUPA). The CUPA is designed to protect public health and the environment from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes. This is accomplished via inspections, emergency response, enforcement, and site mitigation oversight. The CUPA for the City of Lake Forest is the Orange County Environmental Health Division.

California Code of Regulations, Title 8—Industrial Relations

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal OSHA) and the Federal OSHA are the agencies responsible for assuring worker safety in the workplace. Cal OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices. These standards would be applicable to both construction and operation of the project. The standards included in the Cal OSHA's Title 8 include regulations pertaining to hazard control (including administrative and engineering controls), hazardous chemical labeling and training requirements, hazardous exposure prevention, hazardous material management, and hazardous waste operations.

California Labor Code (Division 5, Parts 1, and 7)

The California Labor Code is a collection of regulations that include the regulation of the workplace to ensure appropriate training on the use and handling of hazardous materials and the operation of equipment and machines that use, store, transport, or dispose of hazardous materials. Division 5, Part 1, Chapter 2.5 ensures employees that are in charge of the handling of hazardous materials are appropriately trained on, and informed of, the materials they are handling. Division 5, Part 7 ensures employees who work with volatile flammable liquids are outfitted in appropriate safety gear and clothing.

California Department of Forestry and Fire Protection Fire Prevention Program

The program encompasses multiple different facets of fire prevention techniques, including fire engineering, vegetation management, fire planning, education, and law enforcement. These techniques can include fire break construction and other fire fuel reduction activities that lessen the risk of wildfire to communities and evacuation routes, and brush clearance around communities, along roadways, and evacuation routes. The fire prevention program also includes defensible space inspections, emergency evacuation planning, fire prevention education, fire hazard severity mapping, implementation of the State Fire Plan, and fire-related law enforcement activities such as arson investigation.

Local

City of Lake Forest General Plan-Safety and Noise Element

Natural Hazards and Human Activity Hazards

Certain human activities, such as flying, use of hazardous or toxic materials, use of combustibles, and criminal actions can expose the population risk. The risk of exposure to hazards associated with human activity can be reduced to acceptable levels through proper planning and regulation of human activities.

- **GOAL 2.0:** Protection of the community from hazards associated with aircraft overflights, hazardous materials use, fire, and ground transportation.
    - **Policy 2.2:** Reduce the risk to the community from the use and transport of hazardous materials.
    - **Policy 2.4:** Reduce the risk to the community from fire.

Emergency Management Division Board of Supervisor Resolution 08-001

Under the Orange County Emergency Management Division, the County Emergency Manager is directed to:

- Serve as staff to the Emergency Management Council,
- Direct the daily coordination and cooperation between the emergency management staff and emergency organization of the County,
- Ensure that a plan exists to provide information on disaster preparedness to the County,
- Ensure that the Orange County Emergency Plan described in the Emergency Organization Ordinance is developed and maintained,

- Ensure that personnel who are part of the emergency organization are trained, and arrange for all necessary exercises to prepare for potential disaster conditions,
- Maintain the Emergency Operations Center in a constant state of readiness,
- Notify the Emergency Management Council and Board of Supervisors of Emergency Operations Center activation as soon as practical, and keep the Board of Supervisors informed on all aspects of a current emergency situation as soon as information is available.

Impact Analysis

Would the project:

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less-than-Significant Impact. Implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Construction of the proposed project is expected to last anywhere from 2 to 5 years (dependent on marketplace acceptance), during which time routine transport, use, and disposal of hazardous materials such as fuel, solvents, paints, oils, grease, and caulking would occur. Such transport, use, and disposal must be compliant with applicable regulations such as the RCRA, Department of Transportation Hazardous Materials Regulations, local CUPA regulations, and the City's General Plan. Although small amounts of solvents, paints, oils, grease, and caulking would be transported, used, and disposed of during the construction phase, these materials are typically used in construction projects and would not represent the transport, use, and disposal of acutely hazardous materials.

Small amounts of hazardous materials would be stored and used under normal operations of the proposed project and would consist of materials used in homes such as solvents and cleaners. These products are generally used in small, localized amounts, and any spills that may occur are cleaned up as soon as they occur. Additionally, no acutely hazardous materials are expected to be handled under normal project operations. Impacts would be less than significant.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less-than-Significant Impact. Implementation of the proposed project is not expected to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As mentioned under VIII.a, construction-related hazardous materials would be used during construction of the proposed project, including fuel, solvents, paints, oils, grease, and caulking. It is possible that any of these substances could be released during construction activities. However, compliance with federal, state, and local regulations, in combination with construction BMPs implemented from a SWPPP, discussed in the "Hydrology and Water Quality" section of this document, would ensure that all hazardous materials are used, stored, and disposed properly, which would minimize potential impacts related to a hazardous materials release during the construction phase of the project. As discussed above, no acutely hazardous materials are expected to be used or stored on site during the operational phase, and any hazardous materials handled would be typical of household hazardous materials that are generally used in small, localized amounts.

According to the Phase I ESA (Appendix A), seven ASTs are found throughout the proposed project site, four of which were observed to contain petroleum products. Various chemical storage containers, including plastic totes containing polyurethane resin, were also noted throughout the site. Additionally, only minor staining was observed near the ASTs located in the southwest portion of the property. As such, no Recognized Environmental Concerns were recorded during the completion of the ESA, and thus, potential impacts to the proposed project site related to releases from current site conditions are considered low.

El Toro Materials Co., which formerly operated the sand and gravel mine at the proposed project site, was identified during the EDR database search as having air emission violation records (related to historical mining activities) from 2003 and 2005. These violations were addressed and abated by 2006, and no subsequent violations were recorded. As such, impacts to the proposed project site related to these historical air emissions are considered negligible.

Additionally, four hazardous materials sites were identified during the EDR database search as being within a 1-mile radius of the proposed project area. No violations were reported for three of the four sites identified. The remaining hazardous materials site was a contaminated soil only site that was granted closure by the Regional Water Quality Control Board in March of 2003. Due to the type of release, distance to the proposed project area, and site status, the likelihood of contamination migrating to the proposed project area from this site is extremely low. Impacts would be less than significant.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less-than-Significant Impact. Implementation of the proposed project would not create any significant impacts associated with hazardous emissions or handling of acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Although the proposed project would involve hazardous materials typical of a construction project, it is expected that the proposed project would be operated in compliance with federal, state, and local regulations. Additionally, any potential construction-related hazardous releases or emissions would be from commonly used materials such as fossil fuels, solvents, and paints and would not be considered acutely hazardous materials. Any spills would be localized and immediately contained and cleaned. Therefore, construction activities would not affect existing or proposed schools, including the Heritage Montessori School located approximately 0.2 mile from the project site.

Small amounts of hazardous materials would be stored and used under normal operations of the proposed project and would be typical hazardous materials used in homes such as solvents and cleaners. Additionally, the proposed project is a residential development, and thus no acutely hazardous materials, substances, or waste are expected to be handled or stored on site. Both impacts from construction and operation would be less than significant.

d. Be located on a site that is included on a list of hazardous materials sites that is compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less-than-Significant Impact. Implementation of the proposed project would not create any significant impacts associated with being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Although El Toro Materials Co. (which formerly operated on the proposed project site) was listed in the US MINES and FINDS databases, violations

that were issued and recorded in 2003 and 2005, were properly addressed and abated by 2006. No subsequent violations were recorded. Impacts would be less than significant.

e. For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. Implementation of the proposed project would not result in a safety hazard for people residing or working in the project area because the proposed project area is not located within an airport land use plan area or within 2 miles of a public airport or public use airport. No impact would occur.

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Less-than-Significant Impact. Implementation of the proposed project would not result in a safety hazard for people residing or working in the project area because the proposed project area is not within the vicinity of a private airstrip and the private heliport present at Oakley headquarters is used infrequently. Impacts would be less than significant.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less-than-Significant Impact. Implementation of the proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed project would not result in any substantial traffic queuing along Portola Parkway and Rancho Parkway and would not allow any construction vehicles or equipment to park or remain stationary within the roadway. Moreover, the project does not include any characteristics (e.g., permanent road closures, long-term blocking of road access) that would physically impair or otherwise interfere with emergency response or evacuation in the project vicinity. All large construction vehicles entering and exiting the site would be guided by the use of personnel using signs and flags to direct traffic.

During construction activities, the proposed project would be required to comply with applicable requirements set forth by the Orange County Sheriff's Department's Emergency Management Division, the County's Emergency Operations Center (Orange County Sheriff's Department 2014), the Orange County Fire Department, the Orange County Environmental Health Division, and the City's General Plan. Evacuation instructions and routes are provided by the County's Emergency Operations Center and are facilitated by the responding agencies such as the Orange County Fire Authority and the Sherriff's Department. Therefore, both impacts during construction and operation would be less than significant.

h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less-than-Significant Impact. Implementation of the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. According to information obtained from California Department of Forestry and Fire Protection, the proposed project site does not exist within a California Department of Forestry and Fire Protection

Very High Fire Hazard Severity Zone. Although this is the case, the Whiting Ranch Wilderness Park, which is considered a Very High Fire Hazard Severity Zone, is located just to the north (approximately 2,500 feet) of the proposed project location, and as such could potentially impact the implementation of the project. Although fire can be a significant threat in the Whiting Ranch Wilderness Park area, the proposed project is expected to follow fire management policies, rules, and regulations established by the Orange County Environmental Health Division, Orange County Fire Authority's Fire Prevention Planning and Development review, the California Department of Forestry and Fire Protection, and the City's General Plan. Onsite vegetation and landscaping would be compliant with the guidance established by the above-mentioned agencies, which would ensure vegetation on site would not pose a fire risk to the project. Buildings would be compliant with local fire regulations as reviewed by the Orange County Fire Authority. Compliance with these established procedures, rules, and regulations would ensure impacts related to exposure of people or structures to a significant risk of loss, injury, or death from wildfires would be less than significant.

	IX. Hydrology and Water Quality	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:					
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☒	☐
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☒	☐
e.	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f.	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g.	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h.	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i.	Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j.	Contribute to inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Environmental Setting

Climate and Topography

The climate of Lake Forest is described as Mediterranean, meaning winters are generally wet and summers are generally dry. Average annual precipitation is 14.03 inches. The wettest month of the year is February with an average rainfall of 3.38 inches (IDcide 2014).

The elevation of the project site ranges between 760 and 800 feet above mean sea level and drains in a southeasterly direction. The site has a steep cut slope along the northern boundary that forms a small ridgeline where previously higher topography abutted the SR-241 transportation corridor to the north. A detention basin currently exists at the northeastern portion of the site.

Surface Hydrology

The project site is lies within both the Aliso Creek Watershed and San Diego Creek Watershed. Both watersheds drain from the Santa Ana Mountains. The eastern (majority) portion of the project site is located within the upper portion of Aliso Creek Watershed and is subject to the requirements of the South Orange County Hydromodification Management Plan and Municipal Separate Storm Sewer Systems (MS4) Permit. The western portion of the project site is located within the Upper San Diego Creek Watershed and is subject to the requirements of the North Orange County MS4 Permit. The water bodies nearest to the site are Aliso Creek, Glass Creek, and Serrano Creek. Aliso Creek is approximately 0.5 mile south of the project site, and Serrano Creek is approximately 0.4 mile northwest of the project site. No creeks cross the site; however, Glass Creek borders the project site on the south.

The project site contains three water features, including a V-ditch, vegetated swales, and a detention basin. The V-ditch, located on the western border of the site, conveys runoff from the northwest corner to the southwest corner of the site where runoff is discharged as sheet flow onto uplands. The existing drainage along the remainder of the site flows southerly and southeasterly toward Rancho Parkway and is conveyed easterly through existing swales toward Portola Parkway and then northerly to an existing manmade detention basin. Overflow from the basin is discharged to existing storm drain improvements located in Portola Parkway prior to discharging to Aliso Creek.

The Aliso Creek Watershed is a long, narrow coastal watershed that drains 34.6 square miles from the Cleveland National Forest to the Pacific Ocean. The watershed is almost fully developed, 75% designated as urban, with highly improved storm drain systems, which convey storm flows by concrete pipes and improved channels. The project site is in an urbanized portion of the upper watershed (U.S. Army Corps of Engineers 2009).

The heavily urbanized San Diego Creek Watershed covers 112.2 square miles in central Orange County and drains the Sana Ana Mountains to Newport Bay. The project site is0.4 mile south of Serrano Creek, a minor tributary to San Diego Creek, in the upper southeastern portion of the watershed. The surrounding vicinity is heavily developed.

Flooding

The project site is not within a 100-year flood hazard area designated by the Federal Emergency Management Agency (FEMA). It is located within the FEMA-designated flood Zone X, which indicates areas of minimal flood hazard, which are the areas outside the Special Flood Hazard Area and higher

than the elevation of the 0.2-percent-annual-chance (or 500-year) flood. Flooding is unlikely to occur on the project site because it is surrounded by canyon-like topography with many ephemeral drainages that capture runoff and send it to Serrano or Aliso creeks.

The Carbon Canyon Dam and Prado Dam failure zones lie to the north of Lake Forest (approximately 20 miles and 15 miles, respectively, from the project site). The project site is at an elevation approximately 500 feet higher than both dam failure zones. Failure of the Carbon Canyon Dam would appear to primarily affect areas north of SR-91 in the City of Anaheim. The Prado Dam failure zone is also north of the City of Lake Forest in the City of Anaheim along the banks of the Santa Ana River.

Groundwater Hydrology

The project site is within the Coastal Plain of the Orange County Groundwater Basin. The groundwater basin is an alluvial plain recharged through precipitation, percolation of Santa Ana River flow, and injection into wells. The total capacity of the Orange County Basin is 38,000,000 acre feet (AF). As of 1998, storage of fresh water within the basin amounted to 37,700,000 AF. Orange County Water District manages this groundwater basin using a detailed model of the basin to determine potential effects of changes in pumping and recharge. The basin is impaired due to seawater intrusion near the coast, colored water, high nitrates, and methyl tertiary butyl ether (Department of Water Resources 2004).

No groundwater was encountered in geotechnical borings conducted at the northern portion of the site to 21 feet below existing grade. However, soil borings conducted as part of the Rancho Parkway Extension project to the south encountered groundwater at 24 feet below existing grade. Therefore, groundwater is anticipated at approximately 24 feet below existing grade (Appendix F).

Water Quality

The City of Lake Forest and the project site lie within the jurisdictional boundaries of both the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) and the San Diego Regional Water Quality Control Board (San Diego Water Board). As with all Water Boards, the Water Quality Control Plan (Basin Plan) for the Santa Ana Region and for the San Diego Region designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality objectives developed for particular water segments are based on the designated use and vary depending on such use. The Santa Ana and San Diego Water Boards have set numeric and narrative water quality objectives for several substances and parameters in numerous surface waters in the region. For those waters that do not have specific beneficial uses or water quality objectives, the tributary rule applies to streams.[4] Table 3-13 describes designated beneficial uses for water bodies within the project site watershed.

[4] The "tributary rule" refers to any streams not specifically listed in the plan that are deemed to have the same beneficial uses and water quality objectives of the listed stream, river, or lake to which they are a tributary.

Table 3-13. Designated Beneficial Uses for Surface Water Bodies in the Project Vicinity

Water Body	Jurisdiction	Designated Beneficial Uses
San Diego Creek (Inland surface waters)	Santa Ana Water Board	Groundwater Recharge (GWR), Water contact recreation (REC-1), Non-contact water recreation (REC-2), (WARM), Wildlife habitat (WILD)
Aliso Creek (Inland surface waters)	San Diego Water Board	Agricultural Supply AGR, Water contact recreation (REC-1)[a], Non-contact water recreation (REC-2), (WARM), Wildlife habitat (WILD)

Source: San Diego Water Board 200909, Santa Ana Water Board 20100

[a] Potential

The SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with the federal CWA Section 303(d). Table 3-14 describes identified impairments for water bodies within the project site watershed.

Table 3-14. 303(d) Listed Impairments Uses for Surface Water Bodies in the Project Vicinity

Water Body	Jurisdiction	303(d) Listed Impairments
San Diego Creek (Reach 1) (Inland surface waters)	Santa Ana Water Board	Pathogens, Nutrients, Pesticides, Sediment, and Metals (TMDLs established for Metals, Nutrients, Pesticides and Siltation)
San Diego Creek (Reach 2) (Inland surface waters)	Santa Ana Water Board	Indicator Bacteria, Nutrients, Sedimentation/Siltation, and Unknown Toxicity (TMDLs established for Metals, Nutrients, Sedimentation/Siltation and Unknown Toxicity)
Serrano Creek	Santa Ana Water Board	Ammonia, Indicator Bacteria, and pH (No TMDLs have been established)
Aliso Creek (Inland surface waters)	San Diego Water Board	Indicator Bacteria, Phosphorus, Selenium, Total Nitrogen as N, and Toxicity (No TMDLs have been established)

Source: San Diego Water Board 200909, Santa Ana Water Board 20100

Regulatory Setting

Federal

Clean Water Act (33 USC 1251 et seq.)

The CWA is the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA prohibits any discharge of pollutants into the nation's waters unless specifically authorized by a permit. The applicable sections of the CWA are further discussed below.

Section 102 requires the planning agency of each state to prepare a basin plan to set forth regulatory requirements for protection of surface water quality, which include designated beneficial uses for surface water bodies, as well as specified water quality objectives to protect those uses. Analysis of

the degree to which discharges of runoff from the project may or may not adversely affect project receiving water beneficial uses and attainment by the receiving water indicates the degree to which the project may affect water quality of existing surface waters. Beneficial uses and water quality objectives have been established by the Regional Water Boards for their respective jurisdictions.

Section 303(d) requires each state to provide a list of impaired surface waters that do not meet or are expected not to meet state water quality standards as defined by that section. It also requires each state to develop total maximum daily loads (TMDL) of pollutants for impaired water bodies. The TMDL must account for the pollution sources causing the water to be listed. Impaired waters with potential to be affected by the project are described in the "Surface and Groundwater Quality" section above.

CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit program, which is the primary federal program that regulates point-source and non-point-source discharges to waters of the United States. NPDES permits are issued by the SWRCB and the nine geographically separated Regional Water Boards in California. There are both general and individual NPDES permits. General NPDES permits cover industrial, construction, and municipal stormwater discharges, and some point-source discharges for specific activities. Individual NPDES permits cover point-source discharges from wastewater facilities.

The NPDES permits that apply to the proposed project are the NPDES General Permit for MS4 permit and NPDES Construction General Permit (CGP).

MS4 Permits require that cities and counties develop and implement programs and measures to reduce the discharge of pollutants in stormwater discharges to the maximum extent possible, including management practices, control techniques, system design and engineering methods, and other measures as appropriate. As part of permit compliance, these permit holders have created stormwater management plans for their respective locations. These plans outline the requirements for municipal operations, industrial and commercial businesses, construction sites, and planning and land development. These requirements may include multiple measures to control pollutants in stormwater discharge. During implementation of specific projects under the program, project applicants will be required to follow the guidance contained in the stormwater management plans as defined by the permit holder in that location.

Construction activity resulting in a land disturbance of 1 acre or more, or less than 1 acre but part of a larger common plan of development or sale, must obtain the Construction General Permit. The Construction General Permit requires the development and implementation of a SWPPP. The SWPPP must list BMPs that the discharger will use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment (State Water Resources Control Board 20133). The requirements of the SWPPP are based on the construction design specifications detailed in the final design plans of the proposed project and the hydrology and geology of the site expected to be encountered during construction. These final plans are reviewed and approved by the City prior to the issuance of grading permits. This allows the City to review the plans and require appropriate additional requirements under the SWPPP prior to grading and in compliance with the NPDES permit (as described above).

Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.)

The Porter-Cologne Water Quality Act requires the regulation of all pollutant discharges, including wastes in project runoff that could affect the quality of the state's water. The act also provides for the development and periodic reviews of basin plans that designate beneficial uses of California's major rivers and groundwater basins and establish water quality objectives for those waters. Beneficial uses and water quality objectives are specified for the project area in the Basin Plan for both the Santa Ana Region and San Diego Region and are regulated by the Santa Ana Water Board and San Diego Water Board respectively (see the "Surface and Groundwater Quality" section for more information).

Local

Orange County Stormwater Program

Orange County developed a Stormwater Program, as required under their MS4 Permit. As an MS4 operator, Orange County must obtain and implement NPDES permits for both the Santa Ana and San Diego Water Boards. The Orange County Stormwater Program is a cooperative of the County of Orange, Orange County Flood Control District, and all 34 Orange County cities. As the Principal Permittee on the Santa Ana Board MS4 permit, the County guides development and implementation of the program, collaborating regularly with co-permittees to ensure compliance and prevent ocean pollution. In May and December 2009, the Santa Ana Water Board adopted the latest MS4 permit for Orange County.

Santa Ana Regional Water Quality Control Board (Santa Ana Water Board)

In general accordance with MS4 Permit referenced above, the Model Water Quality Management Plan (WQMP) was developed by the County of Orange, the Orange County Flood Control District, and cities of Orange County (the Permittees) to aid the Permittees and development project proponents with addressing post-construction urban runoff and stormwater pollution from new development and significant redevelopment projects. The Model WQMP describes the process for developing a Project WQMP for individual new development and significant redevelopment projects. A Project WQMP is a plan for minimizing the adverse effects of urbanization on site hydrology, runoff flow rates, and pollutant loads.

Projects located within the Santa Ana Water Board jurisdiction should use the updated 2011 Model WQMP as approved by the Santa Ana Water Board on May 19, 2011. Hunsaker & Associates prepared the proposed project's Conceptual Water Quality Management Plan in February 2014 (Appendix G).

Impact Analysis

Would the project:

a. Violate any water quality standards or waste discharge requirements?

Less-than-Significant Impact. The proposed project would not violate any water quality standards or waste discharge requirements. A discussion of the construction and operation as it relates to water quality standards and discharge requirements is discussed below.

Construction

The proposed project could result in an increase in surface water pollutants such as sediment, oil and grease, and miscellaneous wastes during construction activities. Water quality would be temporarily affected if disturbed sediments were discharged via existing stormwater collection systems or to Glass Creek, which borders the project site on the south. Increased turbidity resulting from construction-related sediment discharge can introduce compounds toxic to aquatic organisms, increase water temperature, and stimulate the growth of algae.

The delivery, handling, and storage of construction materials and wastes, as well as use of construction equipment, could also introduce the risk of stormwater contamination if not properly handled and contained. Staging areas or building sites can be sources of pollution because of the use and storage of equipment and materials during construction. Impacts associated with metals in stormwater include toxicity to aquatic organisms, such as bioaccumulation. Vegetation removal and pesticide use (including herbicides and fungicides) associated with site preparation work can result in erosion and surface water contamination from runoff. Pesticide impacts to water quality include toxicity to aquatic species and bioaccumulation in larger species. Construction impacts on water quality are potentially significant and could lead to exceedance of water quality objectives or criteria specified in the San Diego Water Board's Basin Plan and/or Santa Ana Water Board's Basin Plan.

Construction of the proposed project would disturb more than 1 acre and, therefore, would be required to prepare and implement a SWPPP, in accordance with the General Construction Permit. The SWPPP would list BMPs that would be implemented to protect stormwater runoff, and monitoring of BMP effectiveness. At a minimum, BMPs would include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater. The SWPPP would specify properly-designed centralized storage areas that keep these materials out of the rain. If grading must be conducted during the rainy season, the primary BMPs selected would focus on erosion control (i.e., keeping sediment on the site).

Compliance with the MS4 and CGP permits, as well as other applicable stormwater management requirements, would ensure that the project would have a less-than-significant impact on water quality standards during construction activities.

Operation and Maintenance

The proposed project includes construction of up to 250 single- and multi-family attached and detached residential units. This increase in population, and associated increases in vehicle use, would result in potential discharge of associated pollutants. Leaks of fuel or lubricants, tire wear, and fallout from exhaust contribute petroleum hydrocarbons, heavy metals, and sediment to the pollutant load in runoff could be transported to receiving waters. However, a planned bioretention basin and other biofiltration treatment would be installed to remove these pollutants before stormwater drains off site to the existing storm drain system (Appendix F).

Bioretention and biofiltration are treatment methods designed to provide onsite treatment of stormwater runoff. These treatment features consist of shallow landscaped depressions to which runoff is directed that use woody and herbaceous plants to mimic pollutant removal mechanisms that operate in forested ecosystem. Studies have demonstrated bioretention and biofiltration systems exhibit high removal rates (greater than 90%) for pollutants such as nutrients, metals, bacteria, and total suspended solids if they are maintained. The main difference between

bioretention and biofiltration is the greater depth of what allowed over the filter media in the biofiltration design (U.S. Environmental Protection Agency 1999). These features would slow runoff velocity, which would reduce erosion potential, but would only provide incidental infiltration. An underdrain would convey infiltrated runoff from these features to the existing storm drain system.

Compliance with MS4 requirements, the installation and maintenance of biotreatment measures, and compliance with other applicable stormwater management requirements would ensure that the project would have a less-than-significant impact on water quality standards during project operation.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Less-than-Significant Impact. Implementation of the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level. Based on the project geotechnical evaluation, no groundwater was found within a depth of 21 feet within the project site. Pervious surface area pre-project is 29.3 acres, or 97.3%, and post-project pervious surface area would be 11.1 acres, or 37%. This is a substantial reduction of pervious surface area.

However, based on information from the Natural Resource Conservation Service Web Soil Survey (U.S. Department of Agriculture 2014), onsite soils consist primarily of Hydrologic Group D Soils, characterized as having very slow infiltration rates when thoroughly wet. Thus, despite a large alteration in pervious surface area, the existing site conditions are unlikely to contribute substantial groundwater recharge via infiltration. Furthermore, according to the Conceptual Water Quality Management Plan (Appendix F), no dewatering activities are anticipated during project construction. Therefore, the proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering in the groundwater table.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?

Less-than-Significant Impact. Implementation of the project would alter the existing drainage pattern of the site; however, this alteration would not include the alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation on or off site. As previously described, existing drainage flows southerly and southeasterly toward Rancho Parkway and is conveyed via existing swales easterly toward Portola Parkway and then northerly to an existing basin. Overflow from the basin is discharged to existing storm drains located in Portola Parkway prior to discharging to Aliso Creek.

After implementation of the proposed project, runoff from the western portion of the site (approximately 2.91 acres) would drain as sheet flow from project lots to street gutters and be conveyed southerly to a proposed catch basin prior to discharging to the existing Rancho Parkway storm drain system. Runoff would then be conveyed westerly to Serrano Creek and southerly to Reach 2 of San Diego Creek.

Runoff from the eastern portion of the project site would be conveyed as sheet flow from project lots to street gutters prior to discharging to catch basins and the storm drain system. Runoff would then be conveyed to a bioretention (biofiltration)/detention basin located at the northeastern portion of the site. Runoff entering the basin would eventually be discharged to the existing storm drain system located in Portola Parkway and conveyed approximately 0.5 mile south to Aliso Creek.

The proposed bioretention basin and proprietary biotreatment facilities are intended to satisfy the project's requirements for Low Impact Development and stormwater treatment. Water quality flows (non-stormwater flows and the Design Capture Volume [DCV]) from the project's onsite drainage areas would be conveyed to either of these BMPs for treatment. Additionally, where feasible, depressed landscaping areas (approximately 1–2 inches in depth) in the project's parkways would be used to retain a small portion of the DCV. It is anticipated that the main mechanisms for removal of the small amount of collected runoff would be soil storage, infiltration, and evapotranspiration. These project features would prevent substantial erosion and siltation on or off site. Therefore, although the proposed project would result in alteration of the existing drainage, it would not result in substantial erosion or siltation on or off site, and impacts would be less than significant.

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?

Less-than-Significant Impact. Implementation of the proposed project would alter the existing drainage pattern of the site; however, this alteration would not include the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off site. Post-project runoff discharge volume for the 2-year frequency storm does not exceed that of the predevelopment condition by more than 5% and time of concentration of post-development runoff for the 2-year storm event is not less than that for the predevelopment condition by more than 5%.[5] Additionally, the incorporation of bioretention basins into the project design would minimize the potential for ponding or flooding on and off site. Therefore, the proposed project would not cause the rate or amount of surface runoff to result in flooding on or off site, and impacts would be less than significant.

e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less-than-Significant Impact. Implementation of the proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The existing storm drain line located in Rancho Parkway (southwest of the project site) was designed according to the natural tributary area, which includes approximately 4 acres of the western portion of the project site. Based on the information provided from the storm drain plan and study for Rancho Parkway improvements, the 2-year runoff for the pre-development condition is 9.0 cubic feet per second (cfs) (for approximately 4 acres onsite) (Appendix F). The 2-year runoff for the post-project condition has been determined to be approximately 4.3 cfs (for approximately 2.91 acres). Therefore, the capacity

[5] Per the North Orange County Water Quality Management Plan Technical Guidance Document, hydrologic conditions of concern are considered to exist if the volume for the 2-year runoff event for post-development condition exceeds pre-development condition by more than 5% or the time of concentration is less than the pre-development condition by greater than 5%.

of existing stormwater drainage system would not be exceeded. Furthermore, implementation of planned bioretention/detention basin and proprietary biotreatment facilities would treat stormwater before discharge and prevent additional sources of polluted runoff from entering the stormwater drainage system. Therefore, the proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff, and impacts would be less than significant.

f. Otherwise substantially degrade water quality?

Less-than-Significant Impact. Implementation of the proposed project would not otherwise substantially degrade water quality. As described in IX.a through IX.e above, the proposed project would result in less-than-significant short-term construction and long-term operational impacts on water quality. Construction impacts would be reduced through the implementation of BMPs during construction, and bioretention and biofiltration treatment would be incorporated as a project design feature. Therefore, implementation of the proposed project would be in compliance with existing regulations and would not otherwise substantially degrade water quality. Impacts would be less than significant.

g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The project site is not located within a FEMA-designated 100-year flood zone. Therefore, no impact would occur.

h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No Impact. The project site is not located within a FEMA-designated 100-year flood zone, and the proposed project would be designed to minimize the potential for ponding or flooding on or off site. Therefore, no impact would occur.

i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The project site is not located within a FEMA-designated 100-year flood zone, it is not located downstream of a large dam, and it is located outside of the Prado Dam and Carbon Creek failure zones. Thus, the possibility of exposing people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam is highly unlikely. Therefore, no impact would occur.

j. Contribute to inundation by seiche, tsunami, or mudflow?

No Impact. The project site is not near a large inland water body, it is located approximately 11 miles from the Pacific Ocean, and is generally considered too far away to be subject to a tsunami. Additionally, the site is not within the vicinity of a large reservoir and thus is not subject to seiche. Furthermore, the project site is relatively flat topographically, and a potential mudflow on the project site would not likely occur. Therefore, the proposed project would not contribute to inundation by seiche, tsunami, or mudflow, and no impacts would occur.

X. Land Use and Planning	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Environmental Setting

The project site is currently owned by Baker Ranch Properties, LLC, and is leased to approximately 81 tenants who use the property as staging areas for construction and landscaping companies, equipment storage, container landscaping plants, and for landscaping material processing. As mentioned in Chapter 2, "Project Description," the project site was previously operated as a sand and gravel mine by El Toro Materials. However, since 2010, the project site has been used primarily as a storage yard. The project site is bounded on the north by the SR-241 Foothill Transportation Corridor, on the east by Portola Parkway and Saddleback Church, on the south by Rancho Parkway and the City's Sports Park and Recreation Center (under construction), and on the west by light industrial and business park uses. The proposed project includes closure and reclamation of the existing surface mine and the construction of up to 250 single- and multi-family attached and detached residential units on the approximately 30-acre project site.

City of Lake Forest General Plan

The proposed project site is designated Commercial with a Mineral Resources Overlay per the General Plan Land Use Element. The Commercial land use designation includes retail, professional office, and service-oriented business activities serving a community-wide area and population. The Mineral Resources Overlay land use designation includes important mineral resource areas. The surrounding land use designations include Commercial to the east and south east; Regional Park/Open Space to the south; Business Park to the west and southwest; and light industrial to the southwest as well. Figure 2-3 shows the existing General Plan land use designations for the project site and surrounding vicinity.

City of Lake Forest Zoning Code

The City of Lake Forest Zoning Code was created to carry out the policies of the City of Lake Forest General Plan. It is the intent of the Zoning Code to promote health, safety, and the general welfare of the City and its citizens. The proposed project site is currently zoned PC 7 (Baker Ranch Planned Community). The PC 7 text provides property development regulations for property located within the Baker Ranch Planned Community.

Baker Ranch Planned Community Development Plan and Supplemental Text

The City has a number of developments regulated by Planned Community Text that were inherited from the County of Orange upon incorporation of the city in 1991. The Planned Communities serve as tools for the systematic implementation of the General Plan and are intended to implement and regulate land use and development within a specific project boundary. Planned Community Text establishes zoning and must be consistent with the General Plan.

The project site is within Parcel 3 of the Baker Ranch Planned Community Development Plan and Supplemental Text and is designated as Urban Activity with a Sand and Gravel Overlay Zone. The intent of the Urban Activity Center is to integrate a mix of uses including shopping, cultural, civic, entertainment, professional service, industrial, and office park. Permitted uses within the Sand and Gravel Overlay Zone include mining, quarrying, and commercial extraction of rock, sand, gravel, earth, clay, and similar materials as well as concrete batching plants, mixing plants, and the manufacture of concrete products. Figure 2-4 shows the existing zoning for the project site and surrounding vicinity within the Baker Ranch Planned Community.

Surface Mining Reclamation Act of 1975

The Surface Mining Reclamation Act of 1975 (SMARA) applies to anyone, including government agencies, engaged in surface mining operations in California which disturb more than 1 acre or remove more than 1,000 cubic yards of material. SMARA also requires local governments to address mineral recovery through the direct regulation of mining operations, and through planning policies balancing state mineral resources needs with environmental quality. SMARA requires cities and counties to adopt ordinances, confirming to state policy, for the review and approval of reclamation plans and permits.

City of Lake Forest Municipal Code

Chapter 9.30 of the of the Lake Forest Municipal Code contains regulations that provide for surface mining, quarrying, and processing of mineral resources in a manner which is both environmentally sensitive and compatibility with existing and future land uses. The regulations are intended to implement SMARA and ensure that sites are excavated in a safe and reasonable manner with progressive reclamation to a natural appearing or otherwise useable condition compatible with adjacent areas.

Per the zoning designation of the project site and the requirements of SMARA, the former sand and gravel mining operation was subject to a reclamation plan.

Impact Analysis

Would the project:

a. Physically divide an established community?

No Impact. The proposed project is located within the Baker Ranch Planned Community and is surrounded by a mix of commercial, light industrial, religious, and recreational uses. The project site is entirely enclosed within a chain-link fence. No changes to surrounding land uses and no barriers that would divide the community are proposed. All proposed construction and operation activities would take place within the existing storage yard. Therefore, implementation of the proposed project would not physically divide an established community, and impacts would not occur.

b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less-than-Significant Impact. The proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Land use conflicts can occur where differences exist among uses that occur near each other. These conflicts or incompatibilities may result from differences in physical scale of development, noise levels, traffic levels, hours of operation, and other factors. However, General Plan policies include concepts aimed at achieving land use compatibility within the city. For example, Policies 3.1 and 3.2 of the Land Use Element require that new development fit within the existing City environment, and Policies 5.1 and 5.2 require use of noise/land use compatibility standards as a guide for future planning and development decisions and use of noise control measures in areas of new construction. Additionally, the Baker Ranch Planned Community Development Plan and Supplemental Text requires site plan review and approval to ensure development occurs in a manner compatible with surrounding uses.

The proposed project includes a General Plan Amendment to re-designate the western portion of the project site as Low-Medium Density Residential and the eastern portion as Medium Density Residential as well as to remove the General Plan Mineral Resources Overlay designation. Figure 2-6 shows the proposed land use designations.

Per the City of Lake Forest General Plan Land Use Element, the Low-Medium Density Residential land use designation provides for the development of a range of living accommodations, including single-family detached and attached dwelling units, mobile homes, duplexes, and multiple-family dwellings, such as townhomes, condominiums, apartments, and cooperatives. The designation allows a maximum of 15 dwelling units per net acre of land.

The Medium Density Residential land use designation provides for the development of a range of living accommodations, including single-family dwelling units, and multiple-family dwellings, such as townhomes, condominiums, apartments, and cooperatives. The designation allows a maximum of 25 dwelling units per net acre of land.

The removal of the General Plan Mineral Resources Overlay designation would remove the potential for land use policy conflicts on the project site and allow for implementation of the proposed project in a manner that would be compatible with the surrounding uses.

The applicant is also proposing a Zone Change to amend the Baker Ranch Planned Community Development Plan and Supplemental Text to allow for implementation of detached and attached residential development on the project site.

Finally, the proposed project would revise the reclamation plan so that the project grading plan and the reclamation plan would be consistent. Figure 2-7 shows the amended reclamation plan.

Table 3-15 provides a detailed analysis of the proposed project's consistency with the goals and policies of both the General Plan and the Baker Ranch Planned Community Development Plan and Supplemental Text. Based on the consistency analysis provided in Table 3-15 below, after approval of the General Plan amendment and Zone Change to amend the Baker Ranch Planned Community Development Plan and Supplemental Text, the proposed project would be in compliance with all applicable land use plans. Impacts would be less than significant.

Table 3-15. General Plan and Baker Ranch Planned Community Development Plan and Supplemental Text Consistency Analysis

Policy	Consistency Analysis
GENERAL PLAN HOUSING ELEMENT	
Goal 1.0: Adequate housing to meet the existing and future needs of Lake Forest residents.	**Consistent.** The proposed project includes the construction of up to 250 single- and multi-family attached and detached residential units. These units are expected to help the City meet existing and future needs of Lake Forest residents. Furthermore, an Affordable Housing Implementation Plan (AHIP) would be included in the Development Agreement negotiations in order to ensure that affordable housing is addressed. This would be accomplished either as a percentage of the units being set aside as affordable housing as defined by State law, with deed restriction and/or other restrictions in place to ensure continued affordability for a period of at least 30 years, or through payment of the in-lieu fee that is used to subsidize affordable housing throughout the City.
Policy 1.1: Ensure the provision of a variety of housing opportunities (ownership and rental) in Lake Forest including low-density single-family homes, moderate-density townhomes, higher-density apartments and condominiums, and mobile homes to fulfill regional housing needs.	**Consistent.** The proposed project includes the construction of up to 250 single- and multi-family attached and detached residential units. Additionally, the proposed project would amend the City's General Plan and re-designate the western portion of the project site as Low-Medium Density Residential and the eastern portion as Medium Density Residential. Furthermore, as discussed above under Goal 1.0, an AHIP would be prepared and would allow for housing a diverse population base which would help fulfill regional housing needs.
Policy 1.6: Encourage the development of new housing units in close proximity to public transportation and community services.	**Consistent.** The Orange County Transportation Authority (OCTA) provides transit services and bus stops within the immediate vicinity of the project site. OCTA bus routes 82, 89, 177, and 480 are all within 0.5 mile from the project site. The proximity of the project site to four bus routes within 0.5 mile would allow residents convenient access to alternative transportation. Additionally, the City's Sports Park and Recreation Center is currently under construction and will be adjacent to the project site. It will be one of the largest sports parks in Orange County, with 57 acres devoted to sports fields and a multi-functional center. Additional recreation areas near the project site include the Etnies Skatepark of Lake Forest, Regency Park, and Vintage Park, as well as Crucero Park and Pinecrest Park in Mission Viejo. Hospitals in the vicinity include Saddleback Memorial Hospital and Mission Hospital, approximately 7 and 9.5 miles south of the project site, respectively, and Hoag Hospital Irvine, approximately 11.5 miles southwest of the project

Policy	Consistency Analysis
	site. The closest schools include Portola Hills Elementary, Del Lago Elementary, Glen Yermo Elementary, Foothill Ranch Elementary, Serrano Intermediate School, and Trabuco Hills High School.. The closest fire station to the project site is the Orange County Fire Authority Fire Station #54 approximately 0.5 mile north of the project site, and the nearest police station is the Orange County Sheriff's Department Community Policing Center approximately 1.5 miles west of the project site. In the future, the nearest police station will be the Southeast Substation at 20202 Windrow Drive, adjacent to the project site.
GENERAL PLAN LAND USE ELEMENT	
Goal 1.0: A balanced land use pattern that meets existing and future needs for residential, commercial, industrial, and community uses.	**Consistent.** See Goal 1.0 and Policy 1.6 above. The proposed project would provide a variety of housing opportunities in an area surrounded by recreational, religious, business park, and light industrial uses. The proposed project would provide housing for a diverse population base and help fulfill regional housing needs. Additionally, the proposed project would be located in area accessible to public transportation and a variety of recreational opportunities, including what will be one of the County's largest sports parks.
Goal 3.0: New development that is compatible with the community.	**Consistent.** The proposed project would result in the new development of up to 250 single- and multi-family attached and detached residential units on a site currently zoned for mineral resource extraction. Surrounding uses include the Foothill Transportation Corridor to the north, Saddleback Church to the east, the City's Sports Park and Recreation Center (under construction) to the south, and light industrial and business park uses to the west. The proposed project would not substantially degrade the existing visual character or quality of the site or surrounding areas. The existing disorganized and visual character of the site would become an organized and developed area with residential homes, landscaping, and internal roadways, resulting in an enhancement of the visual quality. Additionally, the proposed project would not substantially increase noise in the project vicinity that could propagate onto surrounding properties. Furthermore, the proposed project would not significantly impact traffic flow in the project area, and all intersections within the TIA study area would continue to operate at LOS D or better with implementation of the proposed project. The proposed project would be located within the Baker Ranch Planned Community where development standards are regulated by the Baker

Policy	Consistency Analysis
	Ranch Planned Community Development Plan and Supplemental Text. Per this community plan, Site Plan review and approval is required and would consider project compatibility with adjacent areas based on the residential and mixed use regulations and site development standards listed in Section IIIA, mitigation measures, and City standard conditions of approval. Approval of the Site Plan would serve as compliance with this goal.
Policy 3.1: Ensure that new development fits within the existing setting and is compatible with the physical characteristics of available land, surrounding land uses, and public infrastructure availability.	**Consistent.** See response to Goal 3.0 above. Per the Baker Ranch Planned Community Development Plan and Supplemental Text, Site Plan review and approval is required and would consider project compatibility with adjacent areas. Approval of the Site Plan would serve as compliance with this goal.
Policy 3.4: Blend residential and nonresidential development with landscaping and architectural design techniques to achieve visual compatibility.	**Consistent.** The Baker Ranch Planned Community Development Plan and Supplemental Text outlines development standards for the whole Baker Ranch planning area including provisions for landscaping and architectural elements. The proposed project would be consistent and comply with all landscaping and architectural provisions of the Baker Ranch Planned Community Development Plan and Supplemental Text.
Goal 4.0: New development conforming to the established planned community development plans and agreements.	**Consistent.** The Baker Ranch Planned Community Development Plan and Supplemental Text outlines development standards for the whole Baker Ranch planning area including the project site. The proposed project would be consistent and comply with all provisions of the Baker Ranch Planned Community Development Plan and Supplemental Text.
Policy 4.1: Ensure that all development proposals within the planned community areas conform to applicable development plans and agreements.	**Consistent.** See response to Goal 4.0 above. The proposed project would be consistent and comply with all provisions of the Baker Ranch Planned Community Development Plan and Supplemental Text.
Policy 4.2: Ensure that all proposed amendments to approved planned community development plans and agreements will not create unacceptable impacts to surrounding existing and planned development, the natural characteristics of the sites, fiscal stability of the City, and the public facilities and services that support development.	**Consistent.** See Goal 1.0 and Policy 1.6 above and Section I and Section III-A Purpose and Objectives below. The proposed project includes an amendment to the Baker Ranch Planned Community Development Plan and Supplemental Text to allow for residential uses on the project site. Upon approval of the amendment, the proposed project would be in compliance with the community plan. Additionally, the Baker Ranch Planned Community Development Plan and Supplemental Text requires Site Plan review and approval to consider project compatibility with adjacent areas. The issuance of Site Development Permits would address any potential land use conflicts. Additionally, the proposed project would provide

Policy	Consistency Analysis
	up to 250 single- and multi-family attached and detached residential units. These units are expected to help the City meet existing and future needs of Lake Forest residents. Furthermore, as discussed above under Goal 1.0, an AHIP would be prepared and would allow for housing a diverse population base which would help fulfill regional housing needs. The proposed project would not create unacceptable impacts to surrounding existing and planned development, the natural characteristics of the sites, fiscal stability of the City, or public facilities and services.
GENERAL PLAN RECREATION AND RESOURCES ELEMENT	
Goal 3.0: Extraction of mineral resources and reclamation of mined land, while preserving the City's plans for future use as described in the Land Use Element.	**Consistent.** Development of the project site would result in the closure of the surface mine in accordance with State law and the reclamation plan and construction of up to 250 single- and multi-family residential units. As described in the Baker Ranch Planned Community Development Plan and Supplemental Text, mining operations on the project site were intended to be an interim use. The proposed project would not result in the loss of a known mineral resource because extraction ceased in 2010 when site topography was level enough to plan the property for its ultimate use. Additionally, the proposed project includes a reclamation plan consistent with the provisions of SMARA and the City of Lake Forest Municipal Code. Furthermore, the proposed project would include a General Plan amendment to re-designate the western portion of the project site as Low-Medium Density Residential and the eastern portion as Medium Density Residential. Upon approval of the General Plan amendment, the proposed project would be in compliance with the City's Land Use Element.
Policy 3.1: Provide for the conservation and development of significant identified mineral resource sites within Lake Forest.	**Consistent.** See response to Goal 3.0 above. As described in the Baker Ranch Planned Community Development Plan and Supplemental Text, sand and gravel mining operations on the project site were intended to be an interim use until the site was level enough for development. The proposed project would not result in the loss of any additional significant known mineral resources because sand and gravel is not a unique resource and because the site has always been planned for development once it was sufficiently leveled. Since then, the project site has been used for staging areas for construction and landscaping companies, equipment storage, container landscaping plants, and landscaping material processing. Additionally, the proposed project includes a reclamation plan consistent with the provisions of SMARA and the City of Lake Forest Municipal Code. Therefore, the proposed project

Policy	Consistency Analysis
	would not conflict with this policy or result in the loss of availability of a locally important mineral resource recovery site.
Policy 3.2: Provide for the reclamation of mineral resource sites in concert with future use as described in the Land Use Element and required environmental mitigation.	**Consistent.** See responses to Goal 3.0 and Policy 3.1 above.
Policy 3.4: Address and mitigate the significant environmental effects of surface mining operations.	**Consistent.** According to the Phase I ESA (Appendix A), seven ASTs were found throughout the proposed project site, four of which were observed to contain petroleum products. Various chemical storage containers, including plastic totes containing polyurethane resin, were also noted throughout the site. Additionally, only minor staining was observed near the ASTs located in the southwest portion of the property. As such, no Recognized Environmental Concerns (RECs) were recorded during the completion of the ESA, and thus, potential environmental effects related to releases from the former surface mining operations are considered to be less than significant. Additionally, El Toro Materials Co., which formerly operated the sand and gravel mine at the proposed project site, was identified during the EDR database search as having air emission violation records (related to historical mining activities) from 2003 and 2005. These violations were addressed and abated by 2006, and no subsequent violations were recorded. As such, environmental effects to the proposed project site related to these historical air emissions are considered negligible. Furthermore, the proposed project would be in compliance with SMARA and the City of Lake Forest Municipal Code by including a reclamation plan.
BAKER RANCH PLANNED COMMUNITY DEVELOPMENT PLAN AND SUPPLEMENTAL TEXT	
Section I: Purpose and Objectives: A primary objective of these regulations is to allow for the continuation and expansion of onsite mining activities as an interim land use, and to ensure that ultimate transition to industrial, commercial and open space uses occurs in an orderly and safe manner.	**Consistent.** See responses to Goal 3.0 and Policy 3.1 above. As described in the Baker Ranch Planned Community Development Plan and Supplemental Text, mining operations on the project site were intended to be an interim use. The proposed project includes a reclamation plan consistent with the provisions of SMARA and the City of Lake Forest Municipal Code. Additionally, upon approval of the Baker Ranch Planned Community Development Plan and Supplemental Text revisions, residential uses would be allowed on the project and the proposed project would be in compliance with the community plan.

Policy	Consistency Analysis
Section I: Purpose and Objectives: Another objective of these regulations is to provide the opportunity for site design maximizing benefits to both the public and private sectors.	**Consistent.** See responses to Goal 1.0 and Policy 1.1 above. The proposed project includes the construction of up to 250 single- and multi-family attached and detached residential units. These units are expected to help the City meet existing and future needs of Lake Forest residents. Additionally, the proposed project would amend the City's General Plan and re-designate the western portion of the project site as Low-Medium Density Residential and the eastern portion as Medium Density Residential, and would allow for housing a diverse population base which would also help fulfill regional housing needs.
Section III-A: Purpose and Objectives: It is an objective of this section to permit a variety of compatible commercial, office and industrial land uses and facilities supportive of the general region and consistent with the mixed us concept.	**Consistent.** The proposed project includes an amendment to the Baker Ranch Planned Community Development Plan and Supplemental Text to allow for residential uses on the project site. Upon approval of the amendment, the proposed project would be in compliance with the community plan. Additionally, the Baker Ranch Planned Community Development Plan and Supplemental Text requires Site Plan review and approval to consider project compatibility with adjacent areas. The issuance of Site Development Permits would address any potential land use conflicts.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The project site is within the boundaries of the Central Subregion of the Orange County Natural Communities Conservation Plan. The site is not within areas designated as Reserve lands for the NCCP/HCP, but is within the in-lieu fee area of the NCCP/HCP. Even though the 0.87 acre of buckwheat scrub on the site is considered low-quality CSS habitat, it is still regulated under the NCCP/HCP. For properties within the in-lieu fee area of the NCCP/HCP area, impacts on coastal sage scrub can be mitigated through MM BIO-1, the payment of an in-lieu fee of $65,000 per acre. See Section IV, "Biological Resources."

XI. Mineral Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☒	☐

Environmental Setting

The project site is currently owned by Baker Ranch Properties, LLC, and is leased to approximately 81 tenants who use the property as staging areas for construction and landscaping companies, equipment storage, container landscaping plants, and for landscaping material processing. As mentioned in Chapter 2, "Project Description," El Toro Materials previously operated the project site as a sand and gravel mine. Mined material was excavated from an open pit using heavy earthwork equipment, and the project site was mined in a way that created an approximate rough grade for future development (City of Lake Forest 2010b). Mined material was transferred to the eastern adjoining property via conveyor belt. The conveyor belt was removed in 2003 when mining operations east of Portola Parkway ceased. Other operational activities conducted at the project site included concrete and asphalt recycling. Broken concrete and asphalt were recycled by grinding the materials, which were then sold as road base.

As planned in the Baker Ranch Planned Community Development Plan and Supplemental Text, mining and recycling operations ceased in 2010 following sufficient topographic leveling of the project site. The project site has since been used as a storage yard and staging area and is no longer a productive mineral resource area. However, the permit has been kept current since it is anticipated that in connection with the grading of the project (which will also accomplish the reclamation of the site in accordance with the amended reclamation plan), some mineral resources could be exported from the site for use elsewhere.

The project site has been designated as a Mineral Resource Zone (MRZ) 2by the California Geological Survey. MRZ-2 zones are areas where adequate information indicated that significant mineral resources are present or where it is judged that it is a high likelihood for their presence exists. The zone is applied to known mineral deposits or where well-developed lines of reasoning, based on economic geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high. The project site has been classified as an important MRZ for Portland cement concrete grade aggregate by the California Department of Conservation (City of Lake Forest 2010a,2010a, General Plan Recreation and Resources Element, revised July 20, 2010).2010 According to the Phase I Environmental Site Assessment for the project site, no oil wells exist on the project site (Appendix A).

Regulatory Setting

State

Surface Mining and Reclamation Act of 1975

In 1975, the Department of Conservation's California Geological Survey created a program to assist in the protection and development of mineral resources through the land use planning process. This program is mandated by the SMARA.

SMARA requires that the State Mining and Geology Board map areas throughout the state of California that contain regionally significant mineral resources. Aggregate mineral resources within the state are classified by the board through application of the MRZ system. The MRZ system is used to map all mineral commodities within identified jurisdictional boundaries. The MRZ system classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials). The State Geologist classifies MRZs within a region based on the following factors:

1. MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
2. MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
3. MRZ-3: Areas containing mineral deposits for which the significance cannot be determined from available data.
4. MRZ-4: Areas where available information is inadequate for assignment of any other MRZ category.

Local agencies are required to use mineral land classification maps and reports when developing land use plans and when making land use decisions (California Department of Conservation 2014b). SMARA also requires local governments to address mineral recovery through the direct regulation of mining operations, and through planning policies that balance state mineral resources needs with environmental quality. SMARA requires cities and counties to adopt ordinances, conforming to state policy, for the review and approval of reclamation plans and permits.

Local

City of Lake Forest General Plan

The project site is designated Commercial with a Mineral Resources Overlay per the General Plan Land Use Element. The Mineral Resources Overlay General Plan land use designation includes important mineral resource areas.

Baker Ranch Planned Community Development Plan and Supplemental Text

The City has a number of developments regulated by Baker Ranch Planned Community Development Plan and Supplemental Text that were inherited from the County of Orange upon incorporation of the City in 1991. The Planned Communities serve as tools for the systematic implementation of the General Plan and are intended to implement and regulate land use and

development within a specific project boundary. Planned Community Text establishes zoning and must be consistent with the General Plan.

The project site is located within Parcel 3 and is designated as Urban Activity with a Sand and Gravel Overlay Zone by the Baker Ranch Planned Community Development Plan and Supplemental Text. Permitted uses within the Sand and Gravel Overlay Zone include mining, quarrying, and commercial extraction of rock, sand, gravel, earth, clay, and similar materials as well as concrete batching plants, mixing plants, and the manufacture of concrete products.

City of Lake Forest Municipal Code

Chapter 9.30 of the of the Lake Forest Municipal Code contains regulations intended to implement SMARA and ensure that sites are excavated in a safe and reasonable manner with progressive reclamation to a natural appearing or otherwise useable condition compatible with adjacent areas. These regulations provide for surface mining, quarrying, and processing of mineral resources in a manner which is both environmentally sensitive and compatibility with existing and future land uses.

Under the City's ordinance, every site zoned SG "Sand and Gravel Extraction" has a single comprehensive SG Site Permit which delineates all of the uses permitted on that particular site. An SG site permit consists of the plan of operations, the drainage and erosion control plan, the vehicular access plan, the reclamation plan, and financial assurances.

Impact Analysis

Would the project:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Less-than-Significant Impact. The project site is located within a MRZ-2 zone and operated as a surface mine for common sand and gravel; however, mining operations ceased in 2010 once a roughly level topography had been achieved, as planned in the existing reclamation plan. Since 2010, the project site has been used as staging areas for construction and landscaping companies, equipment storage, container landscaping plants, and for landscaping material processing. Development of the project site would result in the closure of the surface mine in accordance with State law and the reclamation plan. Under the proposed project, the existing reclamation plan would be amended such that the reclamation plan and the project site grading plan would be consistent. Therefore, because mining at the project site will reach its conclusion consistent with the reclamation plan with the grading of the project and because the minerals present are common to the region and residents of the state, the proposed project would not result in the loss of availability of a known mineral resource. Impacts would be less than significant.

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Less-than-Significant Impact. The project site is designated Commercial with a Mineral Resources Overlay per the General Plan Land Use Element. The Mineral Resources Overlay General Plan land use designation indicates that the site includes important mineral resource areas. The proposed project would remove the General Plan Mineral Resources Overlay designation.

The project site is currently zoned PC 7 (Baker Ranch Planned Community). The Baker Ranch Planned Community Development Plan and Supplemental Text designates the project site as Urban Activity with a Sand and Gravel Overlay Zone. The proposed project includes a Zone Change to amend the Baker Ranch Planned Community Development Plan and Supplemental Text to allow for residential development on the project site's portion of Parcel 3.

While the project site is delineated as an important mineral resource site, as discussed under XI.a, mining operations formerly conducted at the project site ceased when the site was sufficiently leveled and all minerals (i.e., sand and gravel) are already common to the region and residents of the state. Since ceasing mining, the project site has been used for staging areas for construction and landscaping companies, equipment storage, container landscaping plants, and landscaping material processing. As such, the proposed project would not result in the loss of availability of a locally important mineral resource recovery site, and impacts would be less than significant.

XII. Noise	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☒	☐	☐
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Environmental Setting

Traffic on the surrounding roadways is the primary source of noise affecting the project site, with sporadic noise also being generated by the adjacent commercial and light industrial uses to the west and the Sports Park to the south. Noise measurements conducted in November 2013 in the project vicinity indicate general ambient noise levels in the range of 55 to 64 A-weighted decibels (dBA) and analysis of traffic on the existing streets indicates noise levels of approximately 66 to 76 decibels (dB) community noise equivalent level (CNEL) at locations immediately adjacent to the roadways in the study area (at a distance of 50 feet from the nearest travel lane) (Appendix H). The Federal Highway Administration (FHWA) highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions along the roadway segments in the project vicinity. Existing traffic volumes in the project's traffic study prepared by RBF Consulting in October 2013 were used to assess the existing traffic noise impacts (Appendix I). Table 3-16 provides the average daily traffic (ADT) noise levels along the roadways adjacent to the project site under the existing conditions. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the receiver.

Table 3-16. Existing Traffic Noise Levels in Study Area

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL at 50 feet from Centerline of Outermost Lane
Rancho Pkwy. west of Lake Forest Dr.	8,300	< 50	82	170	65.7
Rancho Pkwy. between Lake Forest Dr. and Sports Park	8,900	< 50	85	178	66.0
Rancho Parkway between Sports Park and Portola Pkwy.	8,100	< 50	81	167	65.6
Lake Forest Dr. north of Rancho Pkwy.	16,000	61	123	262	68.6
Lake Forest Dr. south of Rancho Pkwy.	18,500	66	136	288	69.2
Portola Pkwy. north of Rancho Pkwy.	23,900	77	160	342	70.3
Portola Pkwy. south of Rancho Pkwy.	30,600	90	188	403	71.4
SR-241 toll road	39,900	190	403	866	75.7

Source: Appendix H).

Regulatory Setting

State

Title 24 of the California Code of Regulations includes minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family units. Specifically, Title 24 states that interior noise levels due to exterior sources shall not exceed 45 dBA CNEL in any habitable room.

Local

City of Lake Forest Municipal Code

Chapter 11.16 of the City of Lake Forest Municipal Code provides the City's noise ordinance. The noise ordinance is intended to protect sensitive land uses from stationary (i.e., non-transportation) noise sources such as commercial and industrial activities, music, and mechanical equipment. The noise ordinance sets limits on the level and duration of noise that may impact residential properties, as summarized in Table 3-17. As shown in the table, the ordinance provides stricter noise limits at night to reflect the fact that people are typically more sensitive to noise during these hours.

Table 3-17. City of Lake Forest Noise Ordinance Standards at Residential Properties

		Noise Level (dBA) That May Not Be Exceeded For More Than…				
Location	**Time Period**	**30 minutes per hour (L_{50})**	**15 minutes per hour (L_{25})**	**5 minutes per hour (L_8)**	**1 minute per hour (L_2)**	**Anytime (L_{max})**
Exterior	Daytime (7 AM – 10 PM)	55	60	65	70	75
	Nighttime (10 PM – 7 AM)	50	55	60	65	70
Interior	Daytime (7 AM – 10 PM)	-	-	55	60	65
	Nighttime (10 PM – 7 AM)	-	-	45	50	55

Notes:

1. In the event the alleged offensive noise consists entirely of impact noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels will be reduced by 5 dBA.
2. In the event the ambient noise level exceeds any of the first 4 noise limit categories above (i.e., the 30, 15, 5, or 1 minute limits), the cumulative period applicable to that category will be increased to reflect the ambient noise level. In the event the ambient noise level exceeds the fifth (i.e., anytime) noise limit category, the maximum allowable noise level under said category will be increased to reflect the maximum ambient noise level.

Referring to Section 11.16.060 of the municipal code, construction noise is exempted from the limits of the noise ordinance provided it does not occur between the hours of 8:00 p.m. and 7:00 a.m. on weekdays or Saturdays, or at any time on Sundays or federal holidays.

City of Lake Forest General Plan Safety and Noise Element

The City of Lake Forest General Plan includes a Safety and Noise Element, which is a comprehensive program to identify and temper environmental factors that potentially threaten community health and safety. The Safety and Noise Element requires consideration of potential noise impacts early in the planning process and provides interior and exterior noise standards for various land uses as summarized in Table 3-18. These noise standards are typically applied to transportation (i.e., non-stationary) noise standards.

Table 3-18. City of Lake Forest General Plan Interior and Exterior Noise Standards

	Noise Standards[1]	
Land Use	**Interior[2,3]**	**Exterior**
Residential – Single-family, multifamily, duplexes, mobile homes	45 dB CNEL	65 dB CNEL[4]
Residential – Transient lodging hotels, motels, nursing homes, hospitals	45 dB CNEL	65 dB CNEL[4]
Private offices, church sanctuaries, libraries, board rooms, conference rooms, theaters, auditoriums, concert halls, meeting halls, etc.	45 dBA $L_{eq}(12)$ [6]	-
Schools	45 dBA $L_{eq}(12)$	67 dBA $L_{eq}(12)$
General offices, reception, clerical, etc.	50 dBA $L_{eq}(12)$	-
Bank lobbies, retail stores, restaurants, typing pools, etc.	55 dBA $L_{eq}(12)$	-

Land Use	Noise Standards[1]	
	Interior[2,3]	Exterior
Manufacturing, kitchens, warehousing, etc.	65 dBA $L_{eq}(12)$	-
Parks, playgrounds	-	65 dB CNEL[5]
Golf courses, outdoor spectator sports facilities, amusement parks	-	70 dB CNEL[5]

Notes:

1. $L_{eq}(12)$ = The equivalent sound level averaged over a 12-hour period (usually the hours of operation).
2. Noise standard with windows closed. Mechanical ventilation will be provided per Uniform Building Code requirements to provide a habitable environment.
3. Indoor environment excluding bathrooms, toilets, closets, and corridors.
4. Outdoor environment limited to rear yard of single family homes, multifamily patios and balconies (with a depth of 6 feet or more) and common recreation areas.
5. Outdoor environment limited to playground areas, picnic areas, and other areas of frequent human use.
6. Religious institutions (Churches, temples, and other places of worship) of a small size (occupancy of 100 persons or less) may occupy existing buildings within areas of exterior noise levels ranging from 65 to 75 dB CNEL without providing additional noise insulation for the building.

Methodology

The noise study methodology is described in Appendix H.

Impact Analysis

Would the project:

a. Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less-than-Significant Impact with Mitigation Incorporated. The proposed project would not expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. A detailed discussion of the analyses for both construction and operational noise levels is provided below.

Construction

Short-term noise would be associated with excavation, grading, and erecting of buildings onsite during construction of the proposed project. Construction-related short-term noise levels would typically be higher than existing ambient noise levels in the project area, but would cease once construction of the project is completed.

Two types of short-term noise impacts could occur during the construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 feet would generate up to a maximum of 87 dBA), the effect on longer term ambient noise levels (such as the daily or 12-hour average noise levels evaluated by the City's General Plan) would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during excavation, grading, and building erection on the project site. Construction is generally completed in discrete phases, each of which has its own mix of equipment, and consequently, its own noise characteristics. The character of the noise generated on the site and, therefore, the noise levels surrounding the site would change as construction progresses. The site preparation phase, which includes excavation, filling, compaction and grading of the site, tends to generate the highest noise levels because it generally utilizes the largest number of heavy equipment items (i.e., earthmoving equipment). This phase of construction of the proposed project is expected to require the use of earthmovers, bulldozers, and water and pickup trucks. Typical noise levels for these pieces of construction equipment were obtained from the FHWA's Roadway Construction Noise Model. Based on this data, the maximum noise level (L_{max}) generated by each scraper at the site is estimated to be 84 dBA at a distance of 50 feet; the L_{max} for each bulldozer is estimated to 82 dBA at 50 feet; and the L_{max} for each pickup truck and water truck is estimated to be 75 dBA at 50 feet. Combining the various pieces of construction equipment anticipated to be used at the project the referenced technical noise study for the project indicates an estimated worst-case L_{max} of 91 dBA at a distance of 50 feet from the active construction area.

The site preparation phase will be completed before any residents occupy the project site. There are no existing residences immediately adjacent to the project site. The closest residential uses are located approximately 1,500 feet to the south/southeast and would receive more than 30 dBA in noise attenuation from distance divergence and terrain shielding, resulting in estimated maximum noise levels of less than 61 dBA, with average noise levels being noticeably lower.

Based on the project's proposed phasing, residences constructed in the early phases may be exposed to noise from home building construction in later phases. However, the project would be required to comply with the construction hours specified in the City's noise ordinance, which limits construction activities to between 7:00 a.m. and 8:00 p.m. from Monday through Saturday and prohibits construction on Sundays and federal holidays. Because construction activity is exempted from the provisions of the noise ordinance during these hours, the project would not violate established standards and the noise impacts would be less than significant.

Operation

Traffic

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions along the roadway segments in the project vicinity. Table 3-19 provides the traffic noise levels along the roadways adjacent to the project site under the existing plus project traffic conditions. Tables 3-20 and 3-21 provide the traffic noise levels along the roadways adjacent to the project site under the opening year without and with project traffic conditions. These noise levels represent the worst- case scenario, which assumes that no shielding is provided between the traffic and the receiver location.

Table 3-19. Existing plus Project Traffic Noise Levels in Study Area

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL at 50 feet from Centerline of Outermost Lane	Increase CNEL at 50 feet from Centerline of Outermost Lane
Rancho Pkwy. west of Lake Forest Dr.	8,300	< 50	82	170	65.7	0.0
Rancho Pkwy. between Lake Forest Dr. and Sports Park	9,600	< 50	89	187	66.4	0.4
Rancho Parkway between Sports Park and Portola Pkwy.	8,700	< 50	84	175	65.9	0.3
Lake Forest Dr. north of Rancho Pkwy.	16,300	62	125	265	68.7	0.1
Lake Forest Dr. south of Rancho Pkwy.	18,900	67	137	292	69.3	0.1
Portola Pkwy. north of Rancho Pkwy.	24,200	78	161	344	70.4	0.1
Portola Pkwy. south of Rancho Pkwy.	31,000	91	190	406	71.4	0.0
SR-241 toll road	39,900	190	403	866	75.7	0.0

Table 3-20. Opening Year without Project Traffic Noise Levels in Study Area

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL at 50 feet from Centerline of Outermost Lane
Rancho Pkwy. west of Lake Forest Dr.	12,000	< 50	103	217	67.3
Rancho Pkwy. between Lake Forest Dr. and Sports Park	12,000	< 50	103	217	67.3
Rancho Parkway between Sports Park and Portola Pkwy.	12,000	< 50	103	217	67.3
Lake Forest Dr. north of Rancho Pkwy.	22,700	75	155	330	70.1
Lake Forest Dr. south of Rancho Pkwy.	29,900	89	185	396	71.3
Portola Pkwy. north of Rancho Pkwy.	31,400	91	191	409	71.5
Portola Pkwy. south of Rancho Pkwy.	42,600	111	234	502	72.8
SR-241 toll road	53,800	230	491	1,056	77.0

Table 3-21. Opening Year with Project Traffic Noise Levels in Study Area

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL at 50 feet from Centerline of Outermost Lane	Increase CNEL at 50 feet from Centerline of Outermost Lane
Rancho Pkwy. west of Lake Forest Dr.	12,000	< 50	103	217	67.3	0.0
Rancho Pkwy. between Lake Forest Dr. and Sports Park	12,700	< 50	107	225	67.6	0.3
Rancho Parkway between Sports Park and Portola Pkwy.	12,600	< 50	106	224	67.5	0.2
Lake Forest Dr. north of Rancho Pkwy.	23,000	76	156	333	70.1	0.0
Lake Forest Dr. south of Rancho Pkwy.	30,300	89	187	400	71.3	0.0
Portola Pkwy. north of Rancho Pkwy.	32,300	93	195	417	71.6	0.1
Portola Pkwy. south of Rancho Pkwy.	43,300	112	236	507	72.9	0.1
SR-241 toll road	53,800	230	491	1,056	77.0	0.0

Offsite Traffic Noise Impacts. Referring to Tables 3-19 and 3-21, the project-related traffic noise level increase would be 0.4 dB CNEL or less for the project contributions compared to existing conditions and 0.3 dB CNEL or less for project contributions to opening year without project conditions.

Because there are no noise-sensitive land uses in the project vicinity that would be exposed to traffic noise levels exceeding the City's noise standards or a more than 3 dB CNEL increase over the no-project scenario, no significant offsite traffic noise impacts would occur and no mitigation measures would be required for offsite land uses.

Onsite Traffic Noise Impacts. Table 3-19 shows that several roadway segments that would be directly adjacent to the project site would have the 65 dB CNEL noise contour extending to beyond the roadway right-of-way under project operational conditions. Therefore, outdoor living areas associated with the proposed residential uses would be within the 65 dB CNEL noise impact zone from these roadway segments in the project area:

- Portola Parkway within 197 feet of the roadway centerline;
- Rancho Parkway with 149 feet of the roadway centerline; and
- SR-241 within 843 feet of the centerline.

Based on the preliminary grading plan for the project site (prepared by Hunsaker & Associates, November 14, 2013), there are variations in the elevation for the proposed onsite residential uses and major roadways (Portola Parkway, Rancho Parkway, and SR-241) surrounding the project site.

The elevation difference between the roads and the proposed onsite residential units would provide noise shielding from the embankment of the higher side. The following summarizes the elevation differences between these major roadways and the residential units in different phases and potential noise attenuation from the elevation differences:

- Sites along Portola Parkway vary from 20 feet below the road (12 dBA or more in noise attenuation) in the north to 20 feet above the road (10 dBA or more in noise reduction) in the south.
- Sites along Rancho Parkway vary from 3 feet above the road (2 dBA in noise attenuation) in the west to 20 feet above the road (10 dBA or more in noise attenuation) in the east.
- Sites along SR-241 vary from 7 feet below the road (5 dBA in noise attenuation) in the west to 65 feet below the road (12 dBA or more in noise attenuation) in the east, with an earthen berm that runs from east to west from 35 feet below the SR-241 to level with the toll road.

Based on the project's conceptual site plan, there are residential units proposed along these three roadways. Along Portola Parkway, frontline home lots are approximately 140 feet (67.4 dB CNEL without shielding from elevation difference) to 410 feet (60.2 dB CNEL without shielding from elevation difference) from the roadway centerline. Along Rancho Parkway, there are residential lots that would be 60 feet (71.3 dB CNEL without shielding from elevation difference) to 80 feet (69.4 dB CNEL without shielding from elevation difference) from the roadway centerline. Along SR-241, there are residential lots that would be 130 feet (77.2 dB CNEL without shielding from elevation difference) to 320 feet (71.3 dB CNEL without shielding from elevation difference) from the toll road centerline.

These residential units along the three roadways would be potentially exposed to traffic noise exceeding the City's 65 dB CNEL exterior noise standard for the outdoor living area without shielding provided by the elevation difference between the roadway and these homes.

With the potential noise attenuation from elevation difference included, traffic noise would be reduced at the following onsite residential areas:

- The lots along Portola Parkway that are 20 feet below (-12 dBA or more) to 20 feet above (-10 dBA or more) the road would be exposed to traffic noise levels ranging from 48.2 to 57.4 dBA CNEL.
- The lots along Rancho Parkway that are 3 feet above the road (-2 dBA) to 20 feet above (-10 dBA or more) the road would be exposed to traffic noise levels reaching 59.4 dBA CNEL. Those that are at the west end would be potentially exposed to traffic noise levels reaching 69.3 dBA CNEL in the middle and to the west.
- The lots along SR-241 that are 7 feet below (-5 dBA or more) the toll road would be exposed to traffic noise levels reaching 72.2 dBA CNEL in the west. Those that are 65 feet below the toll road (-12 dBA) would be exposed to traffic noise levels reaching 59.7 dBA CNEL in the east.

With the 24 dBA exterior-to-interior noise attenuation provided by the standard building shell in warm climate when windows are closed (Protective Noise Levels, EPA 550/9-79-100, November 1978), all proposed residential structures with an exterior noise of exposure of 69 dB CNEL or higher, would require additional building facade upgrades in order to comply with the City and State's interior noise standards of 45 dB CNEL.

Mechanical ventilation, such as air-conditioning, would be required for all proposed residences that are exposed to traffic noise exceeding 57 dB CNEL, due to only 12 dBA exterior-to-interior noise attenuation provided by standard building shell in warm climate when windows are open (Protective Noise Levels, EPA 550/9-79-100, November 1978).

The recreational area proposed on the project site is shielded by the residential structures and is not directly exposed to major streets in the project area. Therefore, no significant traffic noise impacts would be expected to affect the recreational area.

Mitigation Measures MM NOI-1 through MM NOI-4 are provided in order to mitigate the significant exterior and interior noise impacts at the proposed residences within the project site. It is noted that MM NOI-1 through MM NOI-3 are the initial mitigation measures determined by the technical noise study based on the best plans and information available at the time of the analyses. Precise plans (lot layouts, grading, architectural plans, etc.) may change during the final engineering phases of project design, and the adequacy of the mitigation measures should be reviewed at that time.

MM NOI-1. Noise barriers with a minimum surface density of 3.5 pounds per square foot (compatible materials include, but are not limited to, ¾-inch plywood, ¼-inch tempered glass, ¼-inch laminated glass, ¼-inch Plexiglas, or masonry) will be constructed at the following locations:

- Adjacent to Portola Parkway all homes on pads with elevations within 20 feet of the adjacent roadway elevation will have noise barriers with a minimum height of 5 feet constructed around the perimeter of the first floor outdoor living areas. Minimum 5-foot-high noise barriers will also be constructed around all balconies (if any) at second floor or above for any multifamily residences adjacent to Portola Parkway.
- Adjacent to Rancho Parkway all homes on pads with elevations within 4 feet of the adjacent roadway elevation will have noise barriers with a minimum height of 5 feet constructed around the perimeter of the first floor outdoor living areas. Minimum 5-foot-high noise barriers will also be constructed around all balconies (if any) at second floor or above for any multifamily residences adjacent to Rancho Parkway. A noise barrier constructed along the project boundary adjacent to Rancho Parkway with a minimum height of 5 feet could replace the above recommended noise barriers for first floor outdoor living areas.
- Adjacent to SR-241, a noise barrier will be constructed along the property line adjacent to the roadway. The minimum height of this noise barrier will be 10 feet high adjacent to all residences on pads with elevations within 10 feet of the adjacent roadway; 8 feet high adjacent to all residences on pads with elevations between 10 and 15 feet below the adjacent roadway; and 6 feet high adjacent to all residences on pads with elevations between 15 and 20 feet below the adjacent roadway.

MM NOI-2. Sound-rated windows and doors will be installed in the facades of all residences at the following locations:

- Adjacent to SR-241, ground floor elevations will be fitted with windows and doors with a sound transmission class rating of 28 or higher; second floor elevations or above will be fitted with windows and doors with a sound transmission class rating of 32 or higher.
- Adjacent to Rancho Parkway, ground floor elevations will be fitted with windows and doors with a sound transmission class rating of 28 or higher; second floor elevations or above will be fitted with windows and doors with a sound transmission class rating of 30 or higher.

MM NOI-3. Mechanical ventilation, such as air-conditioning, will be installed in all residences that are exposed to traffic noise exceeding 57 dB CNEL. At a minimum, this will include all residences adjacent to Portola Parkway, Rancho Parkway, and SR-241.

Long-Term Stationary Source Impacts. The proposed on site residences would potentially be exposed to noise from the existing adjacent light industrial and business park uses to the west as well as from activities at the Sports Park to the south.

Most day-to-day noise sources at the light industrial and business park uses, such as air conditioning units, parking lots, and pedestrian activity are intermittent in nature and are not expected to produce high noise levels that would amount to significant impacts at the project site. However, truck deliveries (i.e., Federal Express, United Parcel Service, and other trucks) and loading/unloading activities (including the possible use of a forklift) would likely generate higher noise levels. Additionally, the pending establishment of the Orange County Southeast Substation in the adjacent building may create intermittent noise sources, though not inconsistent with noise typically found in an light industrial area. Based on data for similar activities at other projects, it is estimated that trucking/loading activities would generate a noise level of 75 dBA L_{max} at 50 feet. Allowing for the distance between the trucking/ loading activities and the project site (approximately 200 feet) an L_{max} of 63 dBA is estimated at the project site. This maximum noise levels is lower than the City's exterior L_{max} noise standards of 75 dBA during the day (7:00 a.m. to 10:00 p.m.) and 65 dBA during the night (10:00 p.m. to 7:00 a.m.). Although typical truck unloading processes take an average of 15–20 minutes, this maximum noise level occurs in a much shorter period of time (i.e., just a few minutes). However, if the highest loading/ unloading activities last for more than 15 minutes in any hour, the City's L_{25} standard (i.e., the noise level that may not be exceeded for more than 25% of the time in any given hour) of 60 dBA could be violated, creating a significant impact. Mitigation Measure MM NOI-4 is intended to provide compliance with the City's noise ordinance standards and, therefore, reduce this potential noise impact to a level that is less than significant. (Since there would not be undue nighttime activities at the adjacent commercial/industrial uses, the nighttime maximum noise level standard is not expected to be exceeded.) Mitigation measure MM NOI-5 is provided to ensure operational noise from heating, ventilation, and air conditioning (HVAC) systems do not result in a significant noise impact.

Major noise-generating activities, such as competitive sports games, would occur at the Sports Park. During these events, spectators, players, and coaches would generate relatively loud noise such as periodic whistles, loud talk, players yelling on the fields, and cheering, yelling, and applause from spectators. Because no activity schedule is available for the sports park, for operational noise impact analysis, it is assumed that during a peak use day, there could be up to 94 people at one time at each of the sports field of the Sports Park for games or competition, including players, coaches, umpires, and spectators. Peak use days would occur only when use is maximized (e.g., during the summer months or on weekends) and when more games versus practices are occurring, resulting in more people in attendance. This means that for the sports park, which is assumed to include three sports fields adjacent to the project site, there could be up to 282 people present at the three closest playfields at one time. Therefore, as a worst-case scenario for this noise analysis, it is assumed that a total of 282 people (assuming half male and half female for spectators), including players and spectators, would be present at the same time at the sports park. An analysis of the estimated noise levels at the closest homes due to this worst-case scenario summarized in Table 3-22. A more detailed narrative of the analysis is provided below.

The *Handbook of Acoustical Measurements and Noise Control* lists average sound levels for different male and female vocal efforts (i.e., shouting/yelling, loud voice, and raised voice) (see Appendix H). The average A-weighted vocal sound levels under quiet conditions for these three vocal categories include: 88 dBA for male shouting and 82 dBA for female shouting, 75 dBA for a male loud voice and 71 dBA for a female loud voice, and 65 dBA for a male raised voice and 62 dBA for a female raised voice. These are all maximum sound pressure levels (L_{max}) measured at 1 meter, or 3 feet, from the person.

In acoustics, every doubling of the number of noise sources with equal sound energy would result in a 3 dBA increase in combined noise level. Therefore, 2 males shouting at the same time would result in a noise level of 91 dBA at 1 meter (3 feet); 4 males shouting would result in a noise level of 94 dBA, etc. As the number of people increases from 1 to 141, the L_{max} increases by 21 dBA resulting in L_{max} noise levels of 109 dBA for male shouting, 103 dBA for female shouting, 96 dBA for a male loud voice, 92 dBA for a female loud voice, 86 dBA for a male raised voice, and 83 dBA for a female raised voice.

The closest proposed homes to the sports park are located along Rancho Parkway at a distance of approximately 350 feet from the nearest bleachers. At this distance, noise levels would be attenuated by approximately 41 dBA relative to the levels at 3 feet, resulting in L_{max} noise levels of 68 dBA for 141 males shouting, 62 dBA for 141 females shouting. Adding together the male and female contributions for all 282 people results in a combined L_{max} of 69 dBA from shouting, 56.5 dBA from loud voices, and 46.8 dBA from raised voices. The analysis assumes that over a 2-hour period, all 282 people would shout at the same time for a cumulative total of 10 minutes, speak in loud voices for a cumulative total of 20 minutes, and talk in raised voices for a cumulative total of 90 minutes, resulting in an L_{eq} of 58.9 dBA at the homes during the 2-hour period. It is also noted that, under the worst-case scenario, if all 282 people shout or yell at the same time, the combined noise level would not exceed the City noise ordinance's daytime exterior noise standard of 75 dBA L_{max} for residential uses at the nearest residences; it would also not exceed the nighttime exterior noise standard of 70 dBA L_{max} relative to the noise ordinance standards.

To obtain a CNEL, 24 hourly L_{eqs} are required. In the area along Rancho Parkway daytime and evening (7:00 a.m. to 10:00 p.m.) ambient noise is assumed to be 60 dBA, while nighttime (10:00 p.m. to 7 a.m.) ambient noise is assumed to be 50 dBA. Therefore, the noise generated by 282 players and spectators during a 2-hour sports event would result in a noise level of 58.9 dB CNEL for an event occurring between 7:00 a.m. and 10:00 p.m. For a 4-hour event (assuming 3 hours of sports event occurring during evening hours as a worst case scenario) the noise level is estimated to be 59.2 dB CNEL. Even if sports events last all day (i.e., up to 10 hours with 3 hours during the evening hours) the noise level is estimated to be 59.3 dB CNEL. These noise levels are all below the City's exterior noise standard of 65 dB CNEL for residential uses. Therefore, no noise mitigation is required.

Table 3-22. Worst-Case Sports Park Noise at the Proposed Residences along Rancho Parkway

Number of People/Distance/ Time Duration	Shouting/Yelling		Loud Voice		Raised Voice	
	Male	Female	Male	Female	Male	Female
1 person at 3 feet (1 meter), instantaneous	88 dBA	82 dBA	75 dBA	71 dBA	65 dBA	62 dBA
141 people at 3 feet, instantaneous	109 dBA	103 dBA	96 dBA	92 dBA	86 dBA	83 dBA
141 people at 350 feet, instantaneous	68 dBA	62 dBA	55 dBA	51 dBA	45 dBA	42 dBA
282 people at 350 feet, instant	69 dBA		56.5 dBA		46.8 dBA	

Number of People/Distance/ Time Duration	Shouting/Yelling		Loud Voice		Raised Voice	
	Male	Female	Male	Female	Male	Female
282 people at 350 feet, L_{eq} for 2 hours[a]			58.9 dBA			
2-hour event 24-hour CNEL[b]			58.9 dB CNEL			
4-hour event 24-hour CNEL[c]			59.2 dB CNEL			
10-hour event 24-hour CNEL[c]			59.3 dB CNEL			
City Standard, CNEL[d]			<65 dB CNEL			

Source: Appendix H.

a Assumes 10 minutes of shouting, 20 minutes of loud voices, and 90 minutes of raised voices.

b Assumes ambient noise of 60 dBA during the day and evening (7:00 a.m. to 10:00 p.m.) and 50 dBA during the night (10:00 p.m. to 7:00 a.m.) other than the 2-hour daytime or evening hours (7:00 a.m. to 10:00 p.m.) sports event.

c Assuming 3 hours of sports event occurring during evening hours (7 p.m. to 10 p.m.) as a worst case scenario.

d Normally acceptable for residential uses.

It is noted that a more typical day scenario might consist of a total of 60 people at the three fields (assuming one team practicing per field with 12 players, 3 coaches, and 5 spectators per team). Noise levels associated with this more typical day scenario would be much lower than the peak-event noise analyzed above and would not result in any significant noise impacts to the proposed onsite residences.

MM NOI-4. A noise barrier with a minimum height of 6 feet will be installed along the western project boundary directly adjacent to the loading/unloading areas of the existing commercial/industrial uses. The noise barrier will have a minimum surface density of 3.5 pounds per square foot (compatible materials include, but are not limited to, ¾-inch plywood, ¼-inch tempered glass, ¼-inch laminated glass, ¼-inch Plexiglas, or masonry).

MM NOI-5. Prior to issuance of a building permit, the applicant will submit plans for shielding of all HVAC equipment to provide noise attenuation that will reduce noise from HVAC systems to 65 dBA or less when measured at 50 feet from the noise source.

With implementation of the above-mentioned mitigation measures, impacts related to long-term stationary noise would be less than significant.

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Because neither the state nor the local municipalities maintain regulatory standards for vibration sources, potential structural damage and human annoyance associated with vibration from construction activities were evaluated based on Caltrans vibration limits (Table 3-23). A vibration level of 0.10 inch per second peak particle velocity (PPV) was used to evaluate impacts on nearby receptors since this level represents the boundary between barely perceptible and distinctly perceptible vibration as recognized by Caltrans and others.

Table 3-23. Reaction of People and Damage to Buildings at Various Continuous Vibration Levels

Vibration Level PPV (in/sec)	Human Reaction	Effect on Buildings
0.006–0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibration)	Threshold at which there is a risk of "architectural" damage to normal dwelling-houses with plastered walls and ceilings; special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
0.4–0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Appendix H

The Federal Transit Administration has compiled typical vibration levels generated by construction equipment (Federal Transit Administration 2006), which are commonly used as a reference for construction vibration level analysis. The worst-case vibration levels at the project site are anticipated to be generated by vibratory rollers or large earthmoving equipment (such as bulldozers) that generate PPV vibration levels of 0.210 inch per second and 0.089 inch per second, respectively.

Vibration levels from construction equipment attenuate as they radiate from the source. The equation to determine vibration levels at a specific distance states that

$$PPV_{equip} = PPV_{ref} \times (25/D)\ ^{\wedge 1.5}$$

where PPV_{ref} is the Peak Particle Velocity at a reference distance of 25 feet, and D is the distance from the equipment to the sensitive receptor (see Appendix H).

The closest building to the project site is the commercial/industrial building to the west, at a distance of approximately 100 feet. At this distance, the PPV from a vibratory roller is estimated to be 0.026 inch per second and the PPV from large earthmoving equipment is estimated to be 0.011 inch per second. Both these vibration levels are well below the threshold of 0.10 inch per second; therefore, the impact is less than significant.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less-than-Significant Impact. As described in Table 3-19, the proposed project would not increase traffic noise in the project vicinity by more than 3 dB CNEL at any noise-sensitive property. Furthermore, the project itself is a residential development that is not anticipated to generate

significant noise levels that could propagate onto surrounding properties. Therefore, impacts would be less than significant.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less-than-Significant Impact with Mitigation Incorporated. As described in XII.a, project construction would result in a temporary increase in ambient noise levels. However, construction activities would be required to comply with the construction hours specified in the City's noise ordinance, which limits construction activities to between 7:00 a.m. and 8:00 p.m. from Monday through Saturday and prohibits construction on Sundays and federal holidays. As such, these activities are exempted from the provisions of the noise ordinance.

Despite the exemption of construction noise from the City's noise ordinance, a substantial temporary or periodic increase in ambient noise levels could occur during construction. Typical best practices techniques for construction noise control are included as Mitigation Measures MM NOI-6 through MM NOI-9 in order help to reduce construction noise levels to the extent feasible.

MM NOI-6. Prior to the issuance of a grading permit, the applicant will produce written evidence, or other evidence deemed reasonably acceptable by the Director of Development Services, that all construction vehicles or equipment, fixed or mobile, operated within 1,000 feet of any residential dwelling unit will be equipped with properly operating and maintained mufflers.

MM NOI-7. The project contractor will place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.

MM NOI-8. The construction contractor will obtain the City's approval for its haul plan, with the planned haul truck routes avoiding residential areas to the extent feasible.

MM NOI-9. The contractor will implement the following measures during construction activities:

- Electrically powered equipment will be used instead of pneumatic or internal combustion powered equipment, where feasible.
- Mobile noise-generating equipment and machinery will be shut off when not in use.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas will be located as far as practicable from noise-sensitive receivers.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.

Therefore, although construction noise would represent an increase over the ambient noise level, mitigation would ensure this increase would not be considered substantial, and impacts would be less than significant.

e. For a project located within an airport land use land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The closest active airport to the project site (John Wayne Airport in Santa Ana) is more than 10 miles away. Therefore, the project would not expose people residing or working within the project area to excessive airport noise levels and the impact would be less than significant.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Less-than-Significant Impact. There are no private airstrips in the vicinity of the proposed project. There is a private helipad at the Oakley sunglasses headquarters, but it is used on an infrequent basis. Therefore, the project would not expose people residing or working within the project area to excessive private airstrip noise levels and the impact would be less than significant.

XIII. Population and Housing	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☒	☐
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

The project site is located in the City of Lake Forest, which has a land area of approximately 18 square miles in Orange County. According to the California Department of Finance, in 2013, the population of the city was estimated at 78,501, compared to an estimate of 3,081,804 for the entire county. From 2011 to 2013, the percentage change in population for the city was 1.3%, compared to a change of 1.7% county-wide. (California Department of Finance 20133.)

In 2013, housing units in the city totaled 27,142, compared to 1,056,195 for all of Orange County (California Department of Finance 20133). From 2008 to 2012, the homeownership rate for the city was 71%; the homeownership rate for Orange County in its entirety was 59.3%. For the city, the percentage of housing units in multi-unit structures from 2008 to 2012 was 26%. For Orange County, the percentage of housing units in multi-unit structures from 2008 to 2012 was 34%. (U%U.S. Census Bureau 2014a, b.)

According to the City of Lake Forest's Final Draft General Plan Housing Element (January 2014) the average housing size was 2.95 persons per household (pph), compared to 3.02 pph for all of Orange County. The median household income for the city between 2007 and 2011 was $94,632. The median household income for Orange County from 2007 to 2011 was $75,762 (City of Lake Forest 2014a).

Impact Analysis

Would the project:

a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure?

Less-than-Significant Impact.

Indirect Impacts

Construction activities associated with the proposed project would provide short-term employment opportunities. These jobs would be temporary and are expected to be filled by the local labor force.

Therefore, construction activities associated with the proposed project would not indirectly stimulate the need for additional housing or services.

The proposed project would not result in the need for extended roads, new infrastructure, or make substantial modifications to existing infrastructure, and any modifications to existing infrastructure would be conducted to specifically service the project site, not the greater surrounding area (see Sections IX and XVII); therefore, the proposed project would not result in indirect population growth by extending infrastructure to previously undeveloped areas.

As the proposed project would not indirectly stimulate the need for additional housing or services or result in the need for extended roads or addition of new infrastructure, indirect impacts would be less than significant.

Direct Impacts

The proposed project includes the construction of up to 250 single-and multi-family attached and detached residential units on the approximately 30-acre project site. These housing units would range in size from 1,500 to 3,300 square feet. The proposed project is expected to accommodate a maximum of 737 residents (City of Lake Forest 2014a). Compared to the City of Lake Forest's 2013 estimated population of 78,501, the additional 737 residents would represent less than a 1% increase in population. This increase would not be considered substantial population growth, and direct impacts related to the proposed project would be less than significant.

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The project site is located within the Baker Ranch Planned Community and is surrounded by a mix of commercial, light industrial, religious, and recreational uses. The project site is completely enclosed by a chain-link fence and is currently leased to approximately 81 non-residential tenants who use the property as staging areas for construction and landscaping companies, equipment storage, container landscaping plants, and for landscaping material processing. The proposed project does not involve the demolition of any housing as no housing units are located on site. Further, housing displacement impacts would not occur as a result of project implementation. Therefore, the proposed project would not displace people or housing, and no impact would occur.

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project would not displace any people because no residents are located on the project site. Thus, the construction of replacement housing is not required elsewhere. No impact would occur.

XIV. Public Services	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
1. Fire protection?	☐	☐	☒	☐
2. Police protection?	☐	☐	☒	☐
3. Schools?	☐	☒	☐	☐
4. Parks?	☐	☐	☒	☐
5. Other public facilities?	☐	☐	☒	☐

Environmental Setting

Public services available at or within the vicinity of the project site include fire and police protection, schools, and parks.

Fire Protection Services

The Orange County Fire Authority (OCFA) provides structural fire protection, emergency medical and rescue services, hazardous inspections and response, and public education activities within the City. OCFA is a regional fire service agency that serves 22 cities in Orange County and all unincorporated areas. OCFA protects over 1,300,000 residents from its 60 fire stations located throughout Orange County. OCFA response goals involve reaching an emergency call for service within 5 minutes, 80% of the time and for a paramedic to reach the same destination within 8 minutes, 90% of the time. Most response times fall between 5 and 8 minutes. Response time for all emergency calls for service in urban areas is 8 minutes and 45 seconds 90% of the time (OCFA 2014a).

There are three OCFA fire stations that provide service to the City. The closest fire station to the project site is OCFA Fire Station #54 located at 19811 Pauling Avenue, approximately 0.5 mile north of the project site. This station is staffed with three captains, three engineers, and three firefighters. Equipment available includes one paramedic assessment unit and one urban search and rescue unit (OCFAOCFA 2014b).

Police Protection Services

The Orange County Sheriff's Department (OCSD) is responsible for providing police protection within the unincorporated areas of the County, as well as those incorporated cities, including Lake

Forest, that contract with OCSD to protect their city. The City of Lake Forest and the project site are served by the OCSD Community Policing Center located at 25550 Commercentre Drive in the City of Lake Forest, approximately 1.5 miles west of the project site. The OCSD is currently in the initial stages of establishing a new police substation at 20202 Windrow Drive, which is immediately adjacent to the project site. The new substation will serve cities in southeast Orange County, including the project site. In addition, there are OCSD substations in the nearby cities of Aliso Viejo and Laguna Hills. The Police Services Department is responsible for public safety and general law enforcement, including patrol services, traffic enforcement, and criminal investigation. Police Services also provides a variety of community policing programs for the public including crime prevention, neighborhood watch, business watch, and other community awareness programs. (City of Lake Forest 2014b.)

The California Highway Patrol (CHP) also provides police services in the region but is primarily limited to along the existing State Route and Interstate highway systems that extend throughout the region. However, CHP does provide secondary support services to both county and city police service providers when the need arises. The project site is within the Border Division of the CHP, which includes 12 area offices, four resident posts, five commercial inspection facilities, two transportation management centers, 900 uniformed officers, and 380 non-uniformed officers (California Highway Patrol 2014). The nearest area office is at 32951 Camino Capistrano in the City of San Juan Capistrano, approximately 16 miles south of the project site.

Public Schools

Both private and public schools provide primary and secondary education in the region. Saddleback Valley Unified School District (SVUSD) provides public education for the proposed project. The district provides educational services to approximately 29,000 students from an attendance area encompassing over 95 square miles. There are currently 32 schools in SVUSD, which include 23 elementary schools, four middle schools, four regular high schools, one alternative high school, one independent study high school, and two special needs pre-kindergarten schools (Saddleback Valley Unified School District 2014a).

SVUSD assigns schools to each residential address. Because there are currently no homes on site, the SVUSD has not yet designated to which schools the future homes will be assigned; however, the closest elementary schools are Portola Hills Elementary, Del Lago Elementary, and Foothill Ranch Elementary in Lake Forest, as well as Glen Yermo Elementary School in Mission Viejo. The nearest middle school is Serrano Intermediate School and the nearest high school is Trabuco Hills High School. Table 3-24 displays the 2012–2013 enrollment and capacity by school level provided by SVUSD. Additionally, Table 3-25 shows the 2012–2013 enrollment and capacity for the schools closest to the project site.

Table 3-24. SVUSD Enrollment and Capacity Comparison for 2012–2013

Grade Level	Capacity	Enrollment	Available Capacity
K-6	17,614	15,170	2,444
7-8	6,183	4,703	1,480
9-12	11,369	10,055	1,314
Total	**35,166**	**29,928**	**5,238**

Source: Saddleback Valley Unified School District 2014b; Jeff Starr pers. comm.

Table 3-25. Enrollment and Capacity Comparison for Schools within the Vicinity of the Project Site

School	Capacity	Enrollment	Available Capacity
Del Lago Elementary	608	653	(45)
Foothill Ranch Elementary	1,344	1,152	192
Glen Yermo Elementary	550	385	165
Portola Hills Elementary	904	770	134
Serrano Intermediate School	1,807	1,306	501
Trabuco Hills High School	3,352	3,121	231

Source: Saddleback Valley Unified School District 2014b; Jeff Starr pers. comm.

Although it cannot be determined with certainty which schools would service the proposed project, all the schools within the vicinity of the proposed project, with the exception of Del Lago Elementary, were under capacity during the 2012–2013 school year. While Del Lago Elementary was over capacity during the 2012–2013 school year, there are three other elementary schools close to the project site: Foothill Ranch Elementary, Portola Hills Elementary, and Glen Yermo Elementary, which are under capacity.

Additionally, several private schools are located within proximity of the proposed project, including the Lake Forest Montessori School, Abiding Savior Lutheran School, Fulbright Montessori Academy, Montessori on the Lake, J de Casas Academy, and Mission Viejo Montessori.

Parks

The City of Lake Forest Community Services Department manages recreational opportunities in the city. The City of Lake Forest has 29 public parks covering approximately 185 acres and multiple lakes and urban forests, which are managed by various homeowners' associations. Chapter 7.38 of the Lake Forest Municipal Code was adopted to implement the provisions of the Quimby Act, which authorizes the City to require the dedication of land for park facilities and/or payment of in-lieu fees incident to and a condition of the approval of a tentative map or tentative parcel map for certain subdivisions. Per the City's Municipal Code, the number of acres required to be dedicated to the City for park facilities is 5 acres per 1,000 estimated population. Private parks are also distributed throughout the city in various planned community developments.

Other Public Facilities

Library services are provided by the County of Orange in the vicinity of the project site. While the County maintains 33 library facilities throughout its service area, two branch libraries, El Toro and Foothill Ranch, are located in the vicinity of the project site at 24672 Raymond Way and 27002 Cabriole Way, respectively.

Methodology

An impact on a public service is based on the potential increase in the number of users of a public service. Therefore, the best indicator of the project's impact for existing public services is based on the number of residents that could be added to the project area. Average persons per household in the City of Lake Forest is 2.95 (City of Lake Forest 2014a). Since the proposed project would result

in the development of up to 250 single- and multi-family residential units, it can be expected that the proposed project would accommodate approximately 737 residents.

Impact Analysis

a. Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

1. Fire protection?

Less-than-Significant Impact. During construction of the proposed project, fire protection services could be required; however, this phase of the project would be temporary and short-term in nature, and fire protection services are already available to the project area. Therefore, impacts are expected to be less than significant.

Operation of the proposed project would lead to an increased demand for fire protection services by increasing the permanent population. However, given that the City's estimated population in January of 2013 was approximately 78,501 (California Department of Finance 2013), the proposed project would represent an approximate population increase of less than 1%. Thus, the proposed project is not expected to result in additional strain on fire protection services such that new or expanded facilities would be required. Additionally, implementation i of Policy 11 in Appendix A of the City's General Plan Implementation Program promotes fire prevention in the city by working closely with OCFA to implement fire hazard education and fire prevention programs, including fuel modification programs; coordinating with local water districts and OCFA to ensure that water pressure for urban areas and sites to be developed is adequate for firefighting purposes; and adopting and implementing the Uniform Fire Code provisions. Moreover, the proposed project would be required to meet all access, water, and fire protection systems per the CBC and Fire Code as well as other City Municipal Codes, which would further reduce potential fire-related impacts of the proposed project. Therefore, the proposed project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire protection facilities, and impacts related to fire protection services would be less than significant.

2. Police protection?

Less-than-Significant Impact. Implementation of the proposed project would include the development of up to 250 single- and multi-family attached and detached residential units and accommodate up to 737 residents. During construction of the proposed project, police protection services could be required; however, this phase of the project would be temporary and short-term in nature, and impacts are expected to be less than significant.

Operation of the proposed project would lead to an increased demand for police protection services. However, given that the City's estimated population in January of 2013 was approximately 78,501 (Department of Finance 2013), the proposed project would represent an approximate population increase of less than 1%. Thus, the proposed project is not expected to result in additional strain on police protection services such that new or expanded facilities would be required. Additionally, the City's General Plan has established goals and policies to ensure compliance with standard levels of service. These include ensuring that the affected public agencies can provide necessary facilities and services to support the impact and intensity of development in Lake Forest. Implementation of

Policy 13 in Appendix A of the City's General Plan Implementation Program prescribes specific action to implement the goals of providing substantive levels of police protection, including:

- ensuring that contracted staffing levels correspond to the population and geography of the city when renewing the service contract with OCSD.
- ensuring that mutual aid agreements between OCSD and police departments of surrounding jurisdictions are in place for emergency situations.
- using defensible space and lighting concepts in development project designs to enhance public safety.
- coordinating with OCSD to increase public awareness about criminal activity and crime prevention activities and maximizing the use of Neighborhood Watch programs in both residential and business communities.
- providing periodic crime prevention programs in local schools.
- continuing to administer an effective graffiti removal and avoidance program.

With the City's regular coordination with OCSD and reviewing staffing levels in concert with population and geography during service contract renewals, it is expected that the proposed project would not result in substantial adverse impacts to police protection services such that new or expanded facilities would be required. Therefore, impacts would be less than significant.

3. Schools?

Less-than-Significant with Mitigation Incorporated. Implementation of the proposed project would include the development of up to 250 single- and multi-family attached and detached residential units and accommodate up to 737 residents. Using the SVUSD current student generation factors for detached and attached housing units to evaluate student population, the proposed project would generate approximately 53 elementary students, 14 intermediate students, and 32 high school students for a total of 97 students as outlined in Table 3-26.

Table 3-26. Student Generation from the Proposed Project

Housing Type	Number of Units	Student Generation Rate/Number of Students						
		K–6		7–8		9–12		Total
Detached	117	0.34	40	0.065	8	0.16	19	67
Attached	133	0.10	13	0.046	6	0.10	13	32
Total		**--**	***53***	**--**	***14***	**--**	***32***	***99***

Source: Seiver pers. comm.

The school district as a whole was under capacity for all grade levels, and all schools within the vicinity of the proposed project, with the exception of Del Lago Elementary, were under capacity during the 2012-2013 school year. Therefore, it is expected SVUSD would be able to accommodate the 99 students generated by the proposed project.

Pursuant to Government Code Section 65996, mitigation of impacts on school facilities is limited to the imposition of statutory school fees. SVUSD currently implements an impact fee of $3.36 per square foot of new residential construction (Wilson pers. comm.). Implementation of MM PS-1 would ensure the proposed project pays the statutory school impact fees to fully mitigate the

addition of students to SVUSD facilities. Therefore, after implementation of Mitigation Measure MM PS-1, impacts related to school facilities would be less than significant.

MM PS-1. Consistent with current City requirements, the developer will pay no less than the statutory school fees in effect at the time of issuance of building permits to SVUSD.

4. Parks?

Less-than-Significant Impact. Chapter 7.38 of the Lake Forest Municipal Code requires dedication of land for park facilities at a rate of 5 acres per 1,000 estimated population. The proposed project would increase the population in the city and would be subject to parkland dedication requirements or payment of in-lieu fees to satisfy the neighborhood park requirement. Given that the proposed project would accommodate up to 737residents, it would be required to provide up to 3.7 acres of park facilities. This would be met by allocating 0.5 acre to onsite park use and payment of in lieu fees. Per Chapter 7.38 of the Lake Forest Municipal Code, the proposed project would be required to pay in-lieu fees to the City of Lake Forest to accommodate for the shortfall between the planned park facilities and the rate of parkland dedication set forth in the City's Municipal Code. Therefore, compliance with the City's municipal code would reduce the potential impact on parks to a less-than-significant level.

5. Other public facilities?

Less-than-Significant Impact. Implementation of the proposed project would include the development of up to 250 single- and multi-family attached and detached residential units and accommodate up to 737 residents. Compared to the City's existing population in 2014 of 79,139, the additional 737 persons would represent an approximately 1% increase in population over existing conditions, which would not be considered substantial (California Department of Finance 2014). As such, while the proposed project would create a small additional demand for library services in the City and County, this increase would not be substantial, and new or expanded facilities would not be required as a result of the project. Furthermore, on June 23, 2013, the Orange County Board of Supervisors adopted resolution No. 13-062 with respect to the Development Fee Program for Branch Libraries, stating that those facilities have been constructed and accordingly the fee program is no longer needed. Therefore, impacts related to other public facilities would be less than significant.

XV. Recreation	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☒	☐

Environmental Setting

The Recreation and Resources Element of the Lake Forest General Plan identifies outdoor recreational areas such as parks, trails, sports fields, and other recreational facilities for public enjoyment. Currently, there are 27 parks located in the City of Lake Forest that comprise almost 200 acres of parkland (City of Lake Forest 2014cc; City of Lake Forest 2010aa). Additionally, the Lake Forest Sports Park and Recreation Center, which is currently under construction, will be one of the largest sports parks in Orange County, with 57 acres devoted to sports fields and a multi-functional center (City of Lake Forest 2014dd). The Sports Park and Recreation Center will be located adjacent to the project site on the corner of Rancho Parkway and Portola Parkway. Additional recreation areas near the project site include the Etnies Skatepark of Lake Forest, Regency Park, Vintage Park, as well as Crucero Park and Pinecrest Park in Mission Viejo

Regulatory Setting

State

Quimby Act

The 1975 Quimby Act (California Government Code §66477) was passed to require developers to help mitigate the impacts of property improvements. The Quimby Act authorizes local governments to pass ordinances requiring developers set aside land, donate conservation easements, or pay in-lieu fees for park improvements. The in-lieu fees must be paid and/or the land must be conveyed directly to the local public agencies that provide the community-wide park and recreation services. (California Department of Parks and Recreation 2002.)

Local

City of Lake Forest Subdivisions Code

The intent of the Subdivision Code, which is contained in Chapter 7 of the City of Lake Forest Municipal Code, is to provide regulations and controls for the design and improvement of subdivisions in the City of Lake Forest. Chapter 7.38 implements the provisions of the Quimby Act and authorizes the City of Lake Forest to require the dedication of land for park facilitates at a rate

of 5 acres per 1,000 estimated residents, and/or payment of in-lieu fees incident to, and as a condition of, the approval of a tentative map or tentative parcel map for certain subdivisions.

Impact Analysis

Would the project:

a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less-than-Significant Impact. The proposed project is expected to accommodate up to737 residents, which in turn could generate an increased demand for recreation facilities. However, the proposed project would be subject to Chapter 7.38 of the Lake Forest Municipal Code, which requires dedication of land for park facilitates at a rate of 5 acres per 1,000 estimated residents, or payment of in-lieu fees. The proposed project would include a recreation area on approximately 0.5 acre of land. To accommodate for the shortfall between the planned park facility acreage and the rate of parkland dedication set forth in Chapter 7.38 of the Lake Forest Municipal Code, in-lieu fees would be paid by the developer. Thus, the proposed project would be subject to Chapter 7.38, which would require the developer to pay park impact fees to the City of Lake Forest. These fees would help offset any impacts due to the proposed project's contribution to an increase in population and subsequent increase in park usage. As a result, increased usage of parks and facilities in the city from the project residents is not anticipated to cause substantial deterioration of existing parks, facilities, or open space. Therefore, with the proposed project's onsite recreational area and payment of in-lieu fees, the proposed project's potential effects on existing recreational facilities would be less than significant.

b. Include recreational facilities or require the construction of or expansion of recreational facilities that might have an adverse physical effect on the environment?

Less-than-Significant Impact. As described above in XV.a, the proposed project would result in the construction of a recreation area on approximately 0.5 acre of land. As discussed above, while the proposed project would result in population growth within the City, the proposed project would comply with the Lake Forest Municipal Code requirements for parkland dedication through construction of the 0.5 acre recreation area and payment of in-lieu fees. Thus, the proposed project's developer would pay park impact fees to the City of Lake Forest. As such, the proposed project would not require the construction or expansion of recreational facilities beyond those analyzed as part of the proposed project, which could have an adverse physical effect on the environment. Therefore, impacts on recreational facilities would be less than significant.

XVI. Transportation/Traffic	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☒	☐	☐
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e. Result in inadequate emergency access?	☐	☐	☒	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Environmental Setting

Regional circulation facilities that connect the City of Lake Forest to surrounding areas of Orange County and southern California include Interstate 5 and SR-241, which are located at opposite ends of the City's boundaries to the south and north, respectively. Throughout the City of Lake Forest, local circulation is provided by a mix of five roadway types designated in the City's Circulation Element, including 8 Lane Divided Roadways (Principal Arterial), 6 Lane Divided Roadways (Major Arterial), 4 Lane Divided Roadways (Primary Arterial), 4 Lane Undivided Roadways (Secondary Arterial), and Commercial Streets.

Local roadways surrounding the project site include:

- Lake Forest Drive (a Primary Arterial south of Rancho Parkway and a Commercial Street north of Rancho Parkway)

- Rancho Parkway (a Commercial Street)
- Portola Parkway (a Principal Arterial)
- El Toro Road (a Major Arterial)

Public transportation is provided by OCTA and several routes pass by the project site, including Routes 82, 89, 177, and 480. Bike lanes are located along Rancho Parkway, Portola Parkway, and Lake Forest Drive near the project site. Aliso Creek Bikeway, a Class I trail, is approximately 0.3 mile south of the project site.

The traffic analysis information presented herein is based on the February 2014 project-specific Traffic Impact Analysis (TIA) prepared by RBF Consulting (Appendix I). Due to the location, dispersion, and number of the trips generated by the project, a total of four intersections within the immediate project vicinity that would provide access to the project site are analyzed and include the intersections of Lake Forest Drive/Rancho Parkway, Portola Parkway/Rancho Parkway, Portola Parkway/El Toro Road, and Sports Park/Rancho Parkway. The environmental setting as it relates to traffic includes existing operating traffic conditions in May and July of 2013 (baseline conditions).

Acceptable performance criteria for local transportation facilities are established in the Circulation Element of the Lake Forest General Plan. As shown on Table C-3, the acceptable level of service (LOS) for most intersections in the City is LOS D or better. Some intersections are identified in the City's Annual Transportation Report as "Critical Intersections," which are considered to operate at an acceptable level at LOS E or better. Existing intersection operations were determined by using the Intersection Capacity Utilization (ICU) methodology for signalized intersections. As shown in Table 3-27, existing signalized intersection operations within the study area operate at LOS C or better during the peak hour. Therefore, all four study area intersections currently operate at an acceptable level of service during the A.M. and P.M. peak hours under existing conditions.

Table 3-27. Existing Peak Hour Intersection Capacity Analysis

	A.M. Peak		P.M. Peak	
Intersection	**V/C or Delay**	**LOS**	**V/C or Delay**	**LOS**
Lake Forest Drive / Rancho Parkway	0.40	A	0.56	A
Portola Parkway / Rancho Parkway	0.39	A	0.41	A
Portola Parkway / El Toro Road	0.51	A	0.64	B
Sports Park / Rancho Parkway	13.3	B	18.7	C

Source: Appendix I.
V/C = vehicle to capacity ratio

Impact Analysis

Would the project:

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Less-than-Significant Impact with Mitigation Incorporated. A description of impacts related to project construction and operation is provided below. As discussed, there would be no impacts that would exceed a level of significance for traffic, and all traffic impacts would remain less than significant with mitigation incorporated.

Construction Impacts

Construction activities are expected to generate a short-term, temporary increase in construction related traffic. While specific construction-related traffic impacts are not quantified for the proposed project, potential morning and afternoon traffic delays related to construction vehicles could create a temporary/short-term impact on roadways adjacent to the project site (e.g., Portola Parkway, Rancho Parkway, and Hermana Circle). As such, implementation of a construction management plan as described in Mitigation Measure MM TR-1 would reduce short-term construction traffic impacts to a less-than-significant level.

MM TR-1. Prior to initiating construction, the City will prepare a construction traffic management plan to be approved by the City Engineer. The traffic management plan will include, but will not be limited to:

- a street and site layout showing the location of construction activity and surrounding streets to be used as detour routes, including special signage.
- a tentative start date and construction duration period for each phase of construction.
- the name, address, and emergency contact number for those responsible for maintaining the traffic control devices during the course of construction.
- provisions for maintaining access for emergency vehicles at all times.
- requirements for contractors to avoid intersections currently operating at congested conditions, either by choosing routes that avoid these locations or by receiving deliveries during nonpeak times of day.
- provision of traffic controls within the site that may include flag persons wearing Occupational Safety and Health Administration–approved vests and using a "Stop/Slow" paddle to warn motorists of construction activity.
- standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area.

Operational Impacts

The TIA includes an evaluation of operational impacts that compares the project-related traffic to existing baseline conditions in May and July 2013. Proposed project trip generation was estimated

using the Institute of Transportation Engineers (ITE) Land Use 210: Single-Family Detached Residential trip rates, which provides a generation factor of 9.52 daily vehicle trips per residential unit.[6] While a portion of the 250 proposed residential units could be multi-family, the ITE Land Use 210 trip rate for single-family detached is more conservative than a multi-family attached trip rate and would therefore overestimate traffic generation forecasts. Estimated daily trips generated as a result of proposed project implementation were then added to the roadway network during the A.M. and P.M. peak hours, which are between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., respectively. As shown in Table 3-28, operation of the proposed project would generate approximately 2,380 net daily trips, with 188 trips occurring during A.M. peak hour and 251 during the P.M. peak hour.

Table 3-28. Project Traffic Generation Forecast

		A.M. Peak			P.M. Peak		
Land Use	**ADT**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
250 Single-Family Detached Residential	2,380	48	140	188	158	93	251

Source: Appendix I.

The traffic distribution patterns for the proposed project related trips traveling to and from the project site have been identified based on the site's proximity to the existing roadways and existing traffic flow patterns. The analysis below provides current operating conditions for intersections within the vicinity of the proposed project and includes a projection of their operating conditions.

Intersections

The TIA analyzes four study area intersections located within the City of Lake Forest. The study area intersections analyzed in the TIA are shown on Figure 3-3. The City' maintains an acceptable LOS standard of D or better per their adopted General Plan Circulation Element. Existing intersection operations were determined by using the ICU methodology for signalized intersections. As shown in Table 3-29, existing signalized intersection operations within the study area operate at LOS C or better during the peak hour. Therefore, all four study area intersections currently operate at an acceptable level of service during the a.m. and p.m. peak hours.

Table 3-29. Existing Peak Hour Intersection Capacity Analysis

	A.M. Peak		P.M. Peak	
Intersection	**V/C or Delay**	**LOS**	**V/C or Delay**	**LOS**
Lake Forest Drive / Rancho Parkway	0.40	A	0.56	A
Portola Parkway / Rancho Parkway	0.39	A	0.41	A
Portola Parkway / El Toro Road	0.51	A	0.64	B
Sports Park / Rancho Parkway	13.3	B	18.7	C

Source: Appendix I.

[6] A factor of 9.52 daily vehicle trips per residential unit was determined by dividing 2,380 average daily trips by 250 residential units, which yielded 9.52 daily trips per unit. This is consistent with Institute of Transportation Engineers, *Trip Generation Manual*, 9th Edition, 2012 Land Use Codes.

The traffic impacts of the proposed project during the peak hour were evaluated in the TIA based on the existing plus project traffic conditions at the four study area intersections for the proposed project. Table 3-30 shows the changes in the performance of the intersections from the addition of project-related traffic generated compared to existing conditions. As shown below, all intersections within the study area would continue to operate at LOS D or better with implementation of the proposed project, which is an acceptable level. Therefore, traffic impacts associated with operation of the proposed project would be less than significant, and no mitigation measures would be required.

Table 3-30. Existing Plus Project—Peak Hour Intersection Capacity Analysis

	Existing				Existing Plus Project			
	V/C (Delay)		LOS		V/C (Delay)		LOS	
Intersection	AM	PM	AM	PM	AM	PM	AM	PM
Lake Forest Drive / Rancho Parkway	0.40	0.56	A	A	0.44	0.60	A	A
Portola Parkway / Rancho Parkway	0.39	0.41	A	A	0.39	0.43	A	A
Portola Parkway / El Toro Road	0.51	0.64	A	B	0.52	0.52	A	B
Sports Park / Rancho Parkway	13.3	18.7	B	C	15.3	25.3	C	D

Source: Appendix I.

b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No Impact. OCTA is the Congestion Management Agency responsible for the creation and implementation of the Orange County Congestion Management Program (CMP), which was last updated in 2013. The CMP establishes a Highway System, which includes a series of intersections and highways throughout Orange County, also known as OCTA's Smart Street network, and establishes minimum performance thresholds for these CMP facilities. The nearest OCTA CMP intersection is at El Toro Road and Trabuco Road, about 2.5 miles southwest of the project site, and the nearest CMP Highway System facility is along El Toro Road, about 0.4 mile south of the project. Projects must demonstrate consistency with the OCTA's performance thresholds on the Highway System if the proposed project is estimated to either generate 2,400 or more ADT or contribute 1,600 or more ADT directly onto the Highway System.

As shown above under response XVI.a, a total of 2,380 ADT are estimated to occur during project operations, which is less than the minimum CMP threshold of 2,400 ADT. Additionally, traffic dispersion onto the surrounding roadway network is estimated to contribute about 15% of the 2,380 ADT onto El Toro Road, which amounts to about 357 trips. As such, the proposed project would not trigger a CMP analysis, and no impact would occur.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. John Wayne Airport is located about 12 miles to the west of the project site, and the Fullerton Municipal Airport is located approximately 23 miles to the northwest. The proposed project is not located within any of the Airport Impact Zones or Airport Environs Land Use Plans for

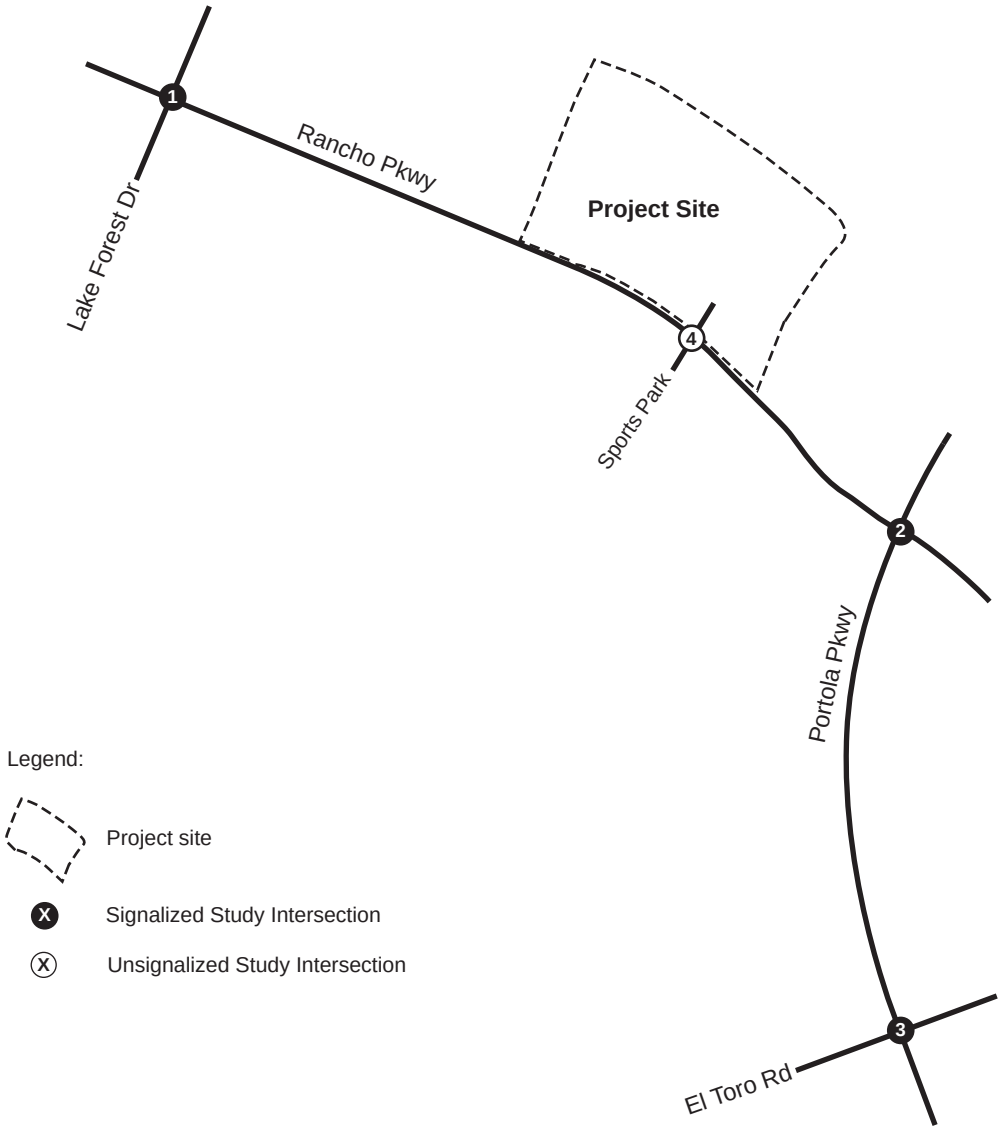

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Figure 3-3
Study Intersection Locations
City of Lake Forest Baker Ranch Residential Project

either airport. Furthermore, the proposed project involves the development of single- and multi-family residences, which would not extend into airspace or be tall enough to result in a change in air traffic patterns or a change in location. Therefore, the proposed project would not result in a change in air traffic patterns or otherwise result in a safety risk, and impacts would not occur.

d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less-than-Significant Impact. This evaluation involves determining if any project-related features would change the circulation system, resulting in physical impacts on automobile traffic or pedestrians. Some examples include poor sight-distance at intersections, sharp roadway curves, and placement of a driveway/site-access road along a high-speed roadway.

Primary vehicular access to the project site would be available from an intersection along Rancho Parkway at the Sports Park. The intersection is currently unsignalized but will be improved into a full-access, stop-controlled signalized intersection by 2014, concurrent with the opening for the Sports Park, directly south and adjacent to the proposed project and Rancho Parkway. As part of the project, the access point into the project site would be widened from approximately 32 feet to 78 feet, consistent with City of Lake Forest roadway standards and guidelines. As such, impacts related to a substantial increase in hazards because of a design feature or incompatible uses are considered to be less than significant, and no mitigation measures are required.

e. Result in inadequate emergency access?

Less-than-Significant Impact. Emergency access to the site would be from two points: (1) the proposed primary access point along Rancho Parkway; and (2) a secondary emergency access point from Lot M. Emergency access to and within the project site would be adequate for both regional and local emergency requirements. The project internal roadways would be between 52 and 78 feet wide, which allows emergency vehicles to enter the project site and travel through the site with a high degree of accessibility. Because emergency vehicles can easily access and travel within the site, impacts related to emergency access on the project site would be less than significant.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. The City of Lake Forest General Plan Circulation Element includes goals and policies for transit, bicycle, pedestrian, and equestrian facilities and includes adopted policies to increase the use of public transportation and to improve access between residential and commercial areas. The policies are primarily focused on City efforts to provide public transit within areas of major development and to generally encourage and increase in public transportation ridership. OCTA provides transit services and bus stops within the immediate vicinity of the project site. OCTA bus routes 82, 89, 177, and 480 are all within 0.5 mile from the project site. The proximity of the project site to four bus routes within 0.5 mile would allow residents convenient access to alternative transportation. OCTA also offers the OCTA ACCESS program and other training programs to assist eligible transit users in learning how to navigate the standard transit system. The proposed project would not alter or conflict with existing bus stops and schedules, and impacts related to OCTA transit services would not occur. Further, none of the proposed project actions would conflict with any of the goals or policies of the City's Circulation Element and impacts would not occur.

The nearest bicycle facilities are located along Rancho Parkway, Portola Parkway, and Lake Forest Drive and are designated in the City's 2008 General Plan Circulation Element as Class II bike lanes.

Additionally, the Aliso Creek Bikeway is approximately 0.3 mile south of the project site, with the nearest connection point at the intersection of El Toro Road and Portola Parkway. The proposed project would not include any bicycle improvements within the study area or involve any offsite improvements or result in any identified offsite impacts on bicycle or pedestrian routes. Therefore, no conflicts would occur to any bicycle facilities. Lastly, existing sidewalks would be maintained along Rancho Parkway upon implementation of the proposed project. As a result, the proposed project would not conflict with any adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities and would not decrease the performance or safety of any facilities. No impact would occur.

XVII. Utilities and Service Systems	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	☐	☐	☒	☐
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
h. Result in the wasteful, inefficient, and unnecessary consumption of energy?	☐	☒	☐	☐

Environmental Setting

The project site previously operated as a sand and gravel mine and is now being utilized primarily as a storage yard for construction and landscaping companies and as a storage area for boxed landscaping plants. Existing site drainage flows southerly and southeasterly toward Rancho Parkway and is conveyed via existing swales easterly toward Portola Parkway and then northerly to the existing detention basin. There are no permanent buildings on the project site. Temporary office trailers are located in the southern portion of the project site and are connected to above ground septic tanks. Portable restrooms are located throughout the remainder of the property. Both the septic tanks and portable restrooms are pumped on a weekly basis. All utilities have already been stubbed into the project site and are located in Rancho Parkway.

Water

Irvine Ranch Water District (IRWD) is a member agency of the Municipal Water District of Orange County (MWDOC), wholesale importer, and member agency of the Metropolitan Water District of Southern California (MWD). As such, MWDOC is entitled to receive water from the available sources of MWD and IRWD receives supplies through MWDOC. Groundwater is an additional source of water for IRWD and is anticipated to increase in the future. In addition, recycled water currently meets a large portion of the landscape irrigation demands within IRWD's service area (Irvine Ranch Water District 2011). Table 3-31 shows past and projected data on water use within IRWD from 2010 to 2035. Table 3-32 shows IRWD's diversity of current and project water supply capacities.

Table 3-31. Actual and Projected Water Deliveries 2010 through 2035 (acre-feet/year)

Water Use Sector	2010 Actual Total Volume	2015 Projected Total Volume	2020 Projected Total Volume	2025 Projected Total Volume	2030 Projected Total Volume	2035 Projected Total Volume
Single-Family	26,130	28,816	32,590	34,849	35,753	36,652
Multi-Family	5,590	12,348	14,822	17,061	17,584	18,053
Commercial	7,735	4,659	5,127	5,455	5,455	5,458
Industrial	4,744	12,586	13,622	14,307	14,119	13,941
Institutional/ Governmental	2,293	2,101	2,404	2,650	2,614	2,581
Landscape	24,221	31,272	36,202	39,650	40,362	41,074
Agriculture	6,904	10,191	6,485	4,318	3,303	2,314
Other	212	-	-	-	-	-
Total	**77,830**	**101,972**	**111,252**	**118,291**	**119,191**	**120,073**

Source: Irvine Ranch Water District 2011.

Table 3-32. Actual and Projected Water Supplies 2010 through 2035 (acre-feet/year)

Water Purchased From	2010 Actual Total Volume	2015 Projected Total Volume	2020 Projected Total Volume	2025 Projected Total Volume	2030 Projected Total Volume	2035 Projected Total Volume
Potable Supplies						
Purchased MWD Treated	49,916	49,916	49,916	49,916	49,916	49,916
Groundwater	43,540	43,540	43,540	43,540	43,540	43,540
Baker Water Treatment Plant	0	6,858	6,858	6,858	6,858	6,858
Manning Water Treatment Plant	0	327	327	327	327	327
Future Groundwater Projects	0	6,474	10,538	10,538	10,538	10,538
Non-Potable Supplies						
Recycled Water	26,135	37,335	37,335	37,335	37,335	37,335
Purchased MWD	24,262	24,262	24,262	24,262	24,262	24,262

Water Purchased From	2010 Actual Total Volume	2015 Projected Total Volume	2020 Projected Total Volume	2025 Projected Total Volume	2030 Projected Total Volume	2035 Projected Total Volume
Untreated						
Native (Surface Water)	4,000	4,000	4,000	4,000	4,000	4,000
Non-potable Groundwater	3,898	3,898	3,898	3,898	3,898	3,898
Total	151,751	176,610	180,674	180,674	180,674	180,674

Source: Irvine Ranch Water District 2011.

Based upon IRWD potable water projected supplies significantly exceeding projected uses through the outside IRWD study period of 2035, IRWD anticipates being able to meet projected water supply demands through 2035. IRWD has taken an integrated approach to developing a diversity of supply sources to achieve a reliable and economical water supply system operation. Expanding the use of recycled water, at locations such as the project, is part of IRWD's integrated approach.

The site is currently served by domestic and reclaimed water services. The office trailers use domestic water. The storage area for landscaping plants stores reclaimed water in a 2,500-gallon water storage tank for irrigation. To be conservative, however, the analysis assumes the existing land uses at the project site do not have a water demand.

Wastewater

Wastewater generated in the City of Lake Forest is conveyed and treated by Los Alisos Water Reclamation Plant (LAWRP). Treatment at LAWRP is composed of a pond system for biological treatment followed by a conventional treatment process consisting of rapid mix, flocculation, sedimentation, and filtration. Tertiary treated reclaimed water produced at the plant is disinfected with chlorine, and meets Title 22 requirements (City of Lake Forest 2008).

Effluent that is not reclaimed to meet irrigation demands is sent to the South Orange County Water Agency outfall for ocean disposal. This water receives secondary treatment only. Currently, IRWD owns a 7.5 million gallons per day (mgd) capacity in this outfall and receives an average of 55.5 mgd for treatment. Discharge only occurs as a result of low winter demand (City of Lake Forest 2008).

There is currently no collection infrastructure on site and therefore above-ground septic tanks and portable restrooms are used with the wastewater eventually disposed of at an offsite approved facility. However, existing sewer ties have been stubbed into the project site and include an 8-inch sewer stub and 10-inch sewer stub in Portola Parkway, an 8-inch sewer stub in Rancho Parkway, and an 8-inch sewer stub north of the project site near the intersection of Portola Parkway and Glenn Ranch Road (City of Lake Forest 2008). To be conservative, however, the analysis assumes the existing land uses at the project site do not generate wastewater.

Solid Waste

The Orange County Integrated Waste Management Department (IWMD) owns and operates three public landfills in Orange County that accept municipal solid waste. These include Frank R. Bowerman Landfill in Irvine, which accepts commercial waste only; the Olinda Alpha Landfill in Brea, which accepts both public and commercial waste; and the Prima Deshecha Landfill in San Juan Capistrano, which also accepts both public and commercial waste. All three landfills are Class III and

only accept non-hazardous municipal waste. Table 3-33 provides an overview of each landfill with its current permitted capacity and remaining capacity. To be conservative, however, the analysis assumes the existing land uses at the project site do not generate solid waste.

Table 3-33. Existing Landfill Conditions

Landfill	Size (acres)	Operating Years	Permitted Daily Capacity (tons/day)	Maximum Permitted Capacity (Cubic Yards)	Remaining Capacity (Cubic Yards)	Remaining Capacity (%)
Frank R. Bowerman	725	1990-2053	11,500	266,000,000	205,000,000	77%
Olinda Alpha	565	1960-2021	8,000	74,900,000	38,578,383	51%
Prima Deshecha	1,530	1976-2067	4,000	172,900,000	87,384,799	50%

Source: CalRecycle 2014a, 2014b, 2014c.

Electricity

The City, and therefore the project site, is within the services area of the Southern California Edison Company (SCE). SCE owns and operates the electric power delivery network and substations in its service area. A subsidiary of Edison International, SCE has 5,000 megawatts of generating capacity from interests in nuclear, hydroelectric, and fossil-fueled power plants. Individual businesses and communities within the service areas are able to have contracts with independent power generators, as allowed by the deregulation of the electric power industry. To be conservative, however, the analysis assumes the existing land uses at the project site do not have a current need for electricity.

Natural Gas

The project site is within the service boundary of the Southern California Gas Company, the largest natural gas utility in the country. A subsidiary of Sempra Energy, the utility annually delivers approximately 1 trillion cubic feet of gas. Similar to electricity, gas customers within the project area have the option of purchasing their natural gas from a private gas supplier.

Given that there are no permanent structures on site, only temporary office trailers, natural gas is not available on site.

Methodology

Based on generation rates using the California Emissions Estimate Model (CalEEMod), Table 3-34 outlines the estimated utility demands of the proposed project.

Table 3-34. Estimated Utility Demands for the Proposed Project

Unit Type	# of Units	Water (mgy)	Wastewater (mgy)	Solid Waste (tons/year)	Electricity (MWh/year)	Natural Gas (kBTU/year)
Single-Family Residential	117	12.43	7.63	137.06	829.49	3,379,367
Multi-Family Residential	133	14.13	8.66	61.18	478.92	1,465,178

Source. South Coast Air Quality Management District 2013b.
mgy = million gallons per year
MWh/year = megawatts per hour per year
kBTU = thousand British thermal unit

Impact Analysis

Would the project:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less-than-Significant Impact. The proposed project would involve the construction of 250 single- and multi-family residential units, which would accommodate up to 737 residents. Therefore, the proposed project would generate an increased demand for wastewater treatment facilities in the City.

The proposed project would be required to comply with the NPDES permit for nonpoint source discharges to surface waters of the state. For nonpoint source discharges, Phase I of the NPDES program establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment for all areas of ground disturbance associated with construction activities that exceed 1 acre. The proposed project would be required to apply for a Phase I permit, and would be required to comply with all applicable wastewater discharge requirements issued by the SWRCB and Regional Water Boards. Therefore, implementation of the proposed project would not exceed applicable wastewater treatment requirements of the Regional Water Quality Control Boards, and impacts would be less than significant.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less-than-Significant Impact. The proposed project would involve the construction of up to 250 single- and multi-family residential units, which would increase water use on site by 26.56 mgy. Therefore, the proposed project would generate an increased demand for water supplies at the project site. However, no new or expanded water treatment facilities would be required.

IRWD anticipates being able to meet projected water supply demands through 2035 and has taken an integrated approach to developing a diversity of supply sources to achieve a reliable and economical water supply system operation. Additionally, according to IRWD's March 2014 Conditional Will Serve Letter (Appendix J), IRWD would have adequate domestic water supplies to furnish the proposed project subject to the developer providing for construction of additional water supply and transmission mains as may be identified in a future Sub Area Master Plan Update, and

the developer installing the necessary in-tract distribution main. Therefore, because future water facilities would accommodate the project and IRWD has issued a conditional will serve letter, implementation of the proposed project would not result in significant environmental effects due to new or expanded water facility construction.

Implementation of the proposed project would increase the amount of building space and population at the project site, which would result in an increased amount of discharge of wastewater above the existing conditions. However, the increased amount of discharge would not exceed the capacity of the existing wastewater treatment system in combination with the provider's existing service commitments.

LAWRP receives an average of 5.5.5 mgd, or 22,007 million gallons per year (mgy), and has a capacity of 7.5 mgd or 2,737.5 mgy (Irvine Ranch Water District 2014a, 2014b). According to IRWD's March 2014 Conditional Will Serve Letter (Appendix J), IRWD would be able to provide sewer service to the proposed project conditioned upon the developer providing for the construction of additional sewer trunk lines and local sewer collection facilities, as may be identified in a future Sub Area Master Plan update, and the developer installing the necessary in-tract sewer mains. Therefore, because adequate capacity exists at LAWRP to accommodate the demand of the proposed project and IRWD has issued a conditional will serve letter, implementation of the proposed project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing facilities which would cause significant environmental effects. Impacts would be less than significant.

c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less-than-Significant Impact. The project site is an existing storage yard with disturbed soils due to former operations as a surface mine. Although the proposed project would alter the existing drainage of the project site, it is not anticipated to result in the construction of new stormwater drainage facilities or expansion of existing facilities.

As discussed in Section IX, "Hydrology and Water Quality," existing drainage flows southerly and southeasterly toward Rancho Parkway and is conveyed via existing swales easterly toward Portola Parkway and then northerly to an existing basin. Overflow from the basin is discharged to existing storm drains located in Portola Parkway prior to discharging to Aliso Creek.

After implementation of the proposed project, runoff from the western portion of the site (approximately 2.91 acres) would drain as sheet flow from project lots to street gutters and be conveyed southerly to a proposed catch basin prior to discharging to the existing Rancho Parkway storm drain system. Runoff would then be conveyed westerly to Serrano Creek and southerly to Reach 2 of San Diego Creek.

Runoff from the eastern portion of the project site would be conveyed as sheet flow from project lots to street gutters prior to discharging to catch basins and the storm drain system. Runoff would then be conveyed via an underground storm drain to the existing bioretention detention basin located at the northeastern portion of the site. Runoff entering the basin would eventually be discharged to the existing storm drain system located in Portola Parkway and conveyed approximately 0.5 mile south to Aliso Creek.

The existing storm drain line located in Rancho Parkway (southwest of the project site) was designed according to the natural tributary area, which includes approximately 4 acres of the

western portion of the project site. Based on the information provided from the storm drain plan and study for Rancho Parkway improvements, the 2-year runoff for the pre-development condition is 9.0 cfs (for approximately 4 acres on site) (Appendix G). The 2-year runoff for the post-project condition has been determined to be approximately 4.3 cfs (for approximately 2.91 acres). Therefore, capacity of existing stormwater drainage system would not be exceeded.

Furthermore, the proposed bioretention basin and proprietary biotreatment facilities are intended to satisfy the project's requirements for Low Impact Development and stormwater treatment. Water quality flows (non-stormwater flows and the DCV) from the project's onsite drainage areas would be conveyed to either of these BMPs for treatment. Additionally, where feasible, depressed landscaping areas (approximately 1–2 inches in depth) in the project's parkways would be used to retain a small portion of the DCV. It is anticipated that the main mechanisms for removal of the small amount of collected runoff would be soil storage, infiltration, and evapotranspiration. These project features would minimize environmental effects due to the increased amount of stormwater runoff which would be generated by the proposed project.

Therefore, although the proposed project would result in an increase in the amount of stormwater runoff at the project site, it would not result in construction of new stormwater drainage facilities or expansion of existing facilities to be able to accommodate the proposed project, and impacts would be less than significant.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?

Less-than-Significant Impact. The proposed project would involve the construction of up to 250 single- and multi-family residential units, which would increase water use on site by 26.56 mgy. Therefore, the proposed project would generate an increased demand for water supplies at the project site.

As discussed above, IRWD anticipates being able to meet projected water supply demands through 2035 and has taken an integrated approach to developing a diversity of supply sources to achieve a reliable and economical water supply system operation. Additionally, according to IRWD's March 2014 Conditional Will Serve Letter (Appendix J), IRWD would have adequate domestic water supplies to furnish the proposed project subject to the developer providing for construction of additional water supply and transmission mains as may be identified in a future Sub Area Master Plan Update, and the developer installing the necessary in-tract distribution main. Therefore, because future water supply demands are projected to be adequately accommodated and IRWD has issued a conditional will serve letter, implementation of the proposed project would not result in significant environmental effects due to expanded entitlements. Impacts would be less than significant.

e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less-than-Significant Impact. As described under XVII.a and XVII.b, implementation of the proposed project would increase discharge of wastewater by 16.59 mgy, which would be newly conveyed through the proposed onsite collection system. However, the increased amount of discharge would not exceed the capacity of the existing wastewater treatment system in combination with the provider's existing service commitments.

LAWRP receives an average of 5.5 mgd, or 2,007 mgy, and has a capacity of 7.5 mgd or 2,737.5 mgy (Irvine Ranch Water District 2014a, 2014b). According to IRWD's March 2014 Conditional Will Serve Letter (Appendix J), IRWD would be able to provide sewer service to the proposed project conditioned upon the developer providing for the construction of additional sewer trunk lines and local sewer collection facilities, as may be identified in a future Sub Area Master Plan update, and the developer installing the necessary in-tract sewer mains. Therefore, because adequate capacity exists at LAWRP to accommodate the demand of the proposed project and IRWD has issued a conditional will serve letter, implementation of the proposed project would not exceed the capacity of IRWD treatment facilities. Impacts would be less than significant.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less-than-Significant Impact. The proposed project would result in an increase of approximately 195 tons of solid waste per year. Additionally, as shown in Table 3-33, all three landfills in Orange County have at least 50% or more left of remaining capacity. Therefore, the proposed project would actually divert less solid waste than the existing storage uses and would not contribute to an exceedance of capacity at local landfills. Impacts would be less than significant.

g. Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. AB 939 mandates the reduction of solid waste disposal in landfills. The bill mandates a minimum 50% diversion goal and also requires cities and counties to prepare Source Reduction Recycling Elements in their General Plans. As stated in the City of Lake Forest 2012 Annual Recycling Report (City of Lake Forest 2013), the City's average diversion rate is 78%, and it remains committed to waste reduction and minimization efforts. The proposed project would be implemented in a manner consistent with the City's commitment and in compliance with AB 939. Additionally, Policy 6.1 of the City of Lake Forest General Plan Recreation and Resources Element (Section 3.15.3) requires that the City continue to reduce the per capita production of solid waste in conjunction with the County of Orange to generate recycling plans. Furthermore, the proposed project would be subject to and comply with the conditions of Chapter 16 of the City of Lake Forest Municipal Code, which regulates solid waste disposal practices. Therefore, the proposed project would not conflict with federal, state, and local statutes and regulations related to solid waste, and no impact would occur.

h. Result in the inefficient and unnecessary consumption of energy?

Less-than-Significant Impact with Mitigation Incorporated. The proposed project would involve the construction of up to 250 single- and multi-family residential units, which would accommodate up to737 residents. Therefore, the proposed project would generate an increased demand for electricity and natural gas at the project site. The total annual electrical and natural gas consumption of the proposed project is estimated to be approximately 1,291 MWh and 4,755,210 kBTU per year, respectively.

General Plan Policy 2.1 requires the City to work closely with local providers of energy and communicate on determining and meeting community needs for energy. Compliance with this policy would help ensure that impacts related to electricity supply remain less than significant. In addition, the electrical distribution system is continually being upgraded as growth occurs. The Viejo System Project included a substation and related distribution lines intended to serve the growing need in

south Orange County. This investment is part of SCE's commitment to sustaining reliability for customers as well as the overall grid operations (City of Lake Forest 2008).

Additionally, the Southern California Gas Company declares itself a "reactive" utility and will provide natural gas as customers request its services. The Southern California Gas Company has also indicated that an adequate supply of natural gas is currently available to serve additional development, and that the natural gas level of service provided to the surrounding area would not be impaired by the proposed project(City of Lake Forest 2008.)

Therefore, although the proposed project would result in increased electrical and natural gas demands, an adequate supply of electricity and natural gas would be available. Further, development of the proposed project would be required to comply with the energy conservation measures contained in Title 24, which would reduce the amount of energy needed for operation of the proposed project. Additionally, implementation of Mitigation Measure MM GHG-1 would further reduce energy demand. For example, energy efficiency measures, such as designing projects to exceed Title 24 by 20%, installing cool roofs, and installing solar lights, would reduce onsite electricity and natural gas consumption. Water conservation and efficiency measures would reduce water-heating energy in project buildings and would reduce energy demand at water pumping and treatment facilities. Solid waste measures would reduce energy demand associated with collecting and processing solid waste generated at the project site. Transportation measures would reduce the number of vehicle miles traveled by project residents, which would reduce energy demand associated with vehicles. Finally, construction and building materials measures would reduce energy demand associated with manufacturing and transporting new building materials and processing building material waste. Thus, after implementation of Mitigation Measure MM GHG-1, impacts related to energy consumption would be less than significant.

XVIII. Mandatory Findings of Significance	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☒	☐	☐
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact Analysis

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less-than-Significant Impact with Mitigation Incorporated. As discussed in Section IV, "Biological Resources," the project site currently contains a variety of small business operations including, but not limited to, a storage area for container landscaping plants, landscape maintenance contractor yard, wood splitting and chipping, and a masonry contractor. The project site is surrounded by a 6+ foot chain link fence on all sides. The project site has the potential to support three special-status species: the orange-throated whiptail (*Aspidoscelis tigris stejnegeri*, CDFW Species of Special Concern [SSC]), the coast-horned lizard (*Phrynosoma blainvillii*, CDFW SSC), and the coastal California gnatcatcher (*Polioptila californica californica*, federally listed as Threatened, CDFW SSC). However, Mitigation Measures MM BIO-2 and MM BIO-3 would reduce any potentially significant impacts to candidate, sensitive, or special-status species in local or regional plans, policies, or regulations by the CDFWCDFW or USFWS to less-than-significant levels.

As discussed in Section V, "Cultural Resources," the proposed project would not eliminate important examples of the major periods of California history or prehistory. The proposed project would incorporate Mitigation Measure MM CUL-1to reduce potential impacts related to the proposed

project in the event that paleontological resources are identified during ground-disturbing activities. Therefore, impacts would be less than significant with the incorporation of mitigation measures.

Implementation of the proposed project would not result in substantial degradation of the quality of the environment, and potential impacts associated with construction of the proposed project would not substantially affect the habitat of a wildlife species, cause a species to drop below self-sustaining levels, threaten to eliminate a plant or animal community, affect a rare or endangered species, or eliminate important examples of the major periods of California history or prehistory.

b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less-than-Significant Impact with Mitigation Incorporated. A cumulative impact could occur if the project would result in an incrementally considerable contribution to a significant cumulative impact identified from past, present, and reasonably foreseeable future projects for each resource area. Past projects have occurred and represent the existing condition. Present projects are currently under construction. Future projects have development applications in process or approved, but no physical construction has yet occurred.

In all, 20 present and future projects are located within the City of Lake Forest and the surrounding cities. Table 3-35 lists each project, provides a description, location, and a status update. Figure 3-4 shows the cumulative project locations.

Table 3-35. Parkside at Baker Ranch: Cumulative Projects List

	Project	Description	Location	Status
CITY OF LAKE FOREST				
1.	Sports Park (a portion is OSA Site 4)	Development of a sports park on 90 gross acres that conceptually could consist: up to six baseball/softball fields, five soccer/multi-use fields, two playgrounds; a 30,000-square foot community center, small amphitheater next to the center, and associated parking, seating, trail connections, lighting, and restroom facilities.	Southwest of the intersection of Portola Parkway and El Toro Road	Currently under construction.
2.	Shea-Baker Ranch Associates	Development of 2,379 homes, and associated parks, streets, trails, and amenities. Includes a mixed-use site to accommodate up to 25,000 square-feet of commercial development	West of Bake Parkway, south of Rancho Parkway and State Route 241, north of Commercentre Drive, both sides of Alton Parkway	Currently under construction.
3.	Portola Center (OSA Site 2)	Development of up to 930 homes and 10,000 square feet of commercial use with parks and trails on 227.8 gross acres.	Generally located at the corner of Glenn Ranch Road and Saddleback Ranch Road	Approved, no building permits issued.

	Project	Description	Location	Status
4.	Brookfield Residential	Multifamily residential development consisting of 147 condominiums.	61 and 71 Auto Center Drive	Currently under construction.
5.	Trumark Homes	Residential development consisting of 75 single-family detached homes.	70 Auto Center Drive	Currently under construction.
6.	CNG Station	Unmanned compressed natural gas fueling station	24201 El Toro Road	Currently under construction
7.	The Pinnacle (OSA Site 6)	Development of 85 single-family homes on 24.6 gross acres.	Northerly terminus of Peachwood	Approved, no building permits issued.
8.	Serrano Summit (OSA Site 3/IRWD Property)	Subdivision of 99 acres for residential development, a Civic Center site, and retention of existing water operation facilities.	20996 Marin	Approved, no building permits issued.
9.	Shah Property	Replacement of existing 2,500 square-foot electronics testing facility with new 7,000 square foot building.	19121 El Toro Road	Approved, no building permits issued.
10.	20 Icon	An approximately 50,000 square feet expansion and renovation of an existing industrial building.	20 Icon	Approved, no building permits issued.
11.	Applied Medical Building	19,339 square-foot expansion of existing building for a medical building	20161/20162 Windrow	Currently under construction.
12.	United Material Handling	New 3,800 square-foot mezzanine for existing industrial building	20382 Hermana Circle	Approved, no building permits issued.
13.	Plump Engineering	New 3,800 square-foot accessory use for existing industrial building	25242 Arctic Ocean Drive	Approved, no building permits issued.
14.	Lake Forest Gateway	Façade remodel, demolition of four buildings totaling 41,592 square foot building and construction of five buildings totaling 42,536 square feet (net increase of 944 square feet)	23592 Rockfield Boulevard	Application submitted and under review.
15.	Parkside at Baker Ranch	General Plan Amendment / Zone Change / Tentative Tract Map for 250 units on a 30-acre site	Portola Parkway and Rancho Parkway	Application submitted and under review.
16.	American Cleanroom Systems	Construction of a 550 square-foot mezzanine and 1,185 square-foot cleanroom within an existing industrial building	26882 Vista Terrace	Application submitted and under review.
17.	Avila's El Ranchito	Legalize 983 square-foot restaurant addition	24406 Muirlands Blvd.	Application submitted and under review.

	Project	Description	Location	Status
18.	Southside Towing	Establish a tow yard including the construction of 1,000 sq. ft. building, rehab of existing building, paving, walls, fencing, and landscape.	25101 Front Street	Application submitted and under review.
CITY OF IRVINE				
	None in the vicinity of the proposed project.			
CITY OF LAGUNA WOODS				
	None in the vicinity of the proposed project.			
CITY OF MISSION VIEJO				
19.	Skyridge	84 single-family detached residential units on 28.45 acres	El Toro and Glenn Ranch Road	Pending
20.	Los Alisos Apartments	250 apartments on 10.83 acres	28601 Los Alisos Blvd	Under construction
CITY OF RANCHO SANTA MARGARITA				
	None in the vicinity of the proposed project.			

As discussed in Sections I though XVII, the proposed project would not result in any unavoidable significant impacts. Resource areas where the proposed project could potentially contribute to cumulative impacts include aesthetics; air quality; biological resources; cultural resources; greenhouse gas emissions; hydrology and water quality; land use and planning; noise; population and housing; public services; recreation; transportation; and utilities and service systems.

Aesthetics

As described in Section I, "Aesthetics," the proposed project's aesthetics impacts would be limited because the views of the project site are limited to immediately surrounding areas, and the project site is not visible from any distance due to intervening development (e.g., office parks, recreational areas, and a toll road) and topography. There are also no scenic highways nearby. Existing site aesthetics would improve with the project and new lighting would be consistent with the standards helping to prevent excessive nighttime lighting and proposed materials used for typical southern California home construction (stucco, wood, tiling roofing) would minimize daytime glare. None of the project's impacts on aesthetics would be considered cumulatively considerable when considered in connection with cumulative projects, including the projects listed in Table 3-35. Impacts would be less than significant, and no mitigation is necessary.

Air Quality

The region of analysis for cumulative effects on air quality is the South Coast Air Basin. The geographic region of the Basin where the project site is located is currently in nonattainment for O_3 and PM2.5 under the NAAQS as well as for O_3, PM10, and PM2.5 under the CAAQS as a consequence of past and present projects and is subject to continued nonattainment status by reasonably foreseeable future projects. These nonattainment conditions within the region are considered cumulatively significant. Therefore, SCAQMD thresholds have been established to ensure attainment of the NAAQS and CAAQS. The impacts of related projects in areas surrounding the project would be cumulatively considerable if their combined construction operational emissions would exceed the SCAQMD daily emission thresholds for construction and operation.

As discussed in Section III, "Air Quality," the project is consistent with the AQMP and SIP. Furthermore, emissions would be below SCAQMD regional thresholds during both construction and operation and would not result in substantial pollutant concentrations at nearby sensitive receptors. The proposed project would comply with SCAQMD rules and regulations, including Rule 403 (Fugitive Dust Control), during construction as well as all other adopted AQMP emissions control measures. Per SCAQMD rules and mandates, these same requirements (i.e., Rule 403 compliance and compliance with adopted AQMP emissions control measures) would also be imposed on all projects Basin-wide, which would include all nearby projects. As such, cumulative impacts with respect to criteria pollutant emissions would be less than significant. Therefore, the project's incremental contribution to cumulative air quality impacts would not be cumulatively considerable.

Biological Resources

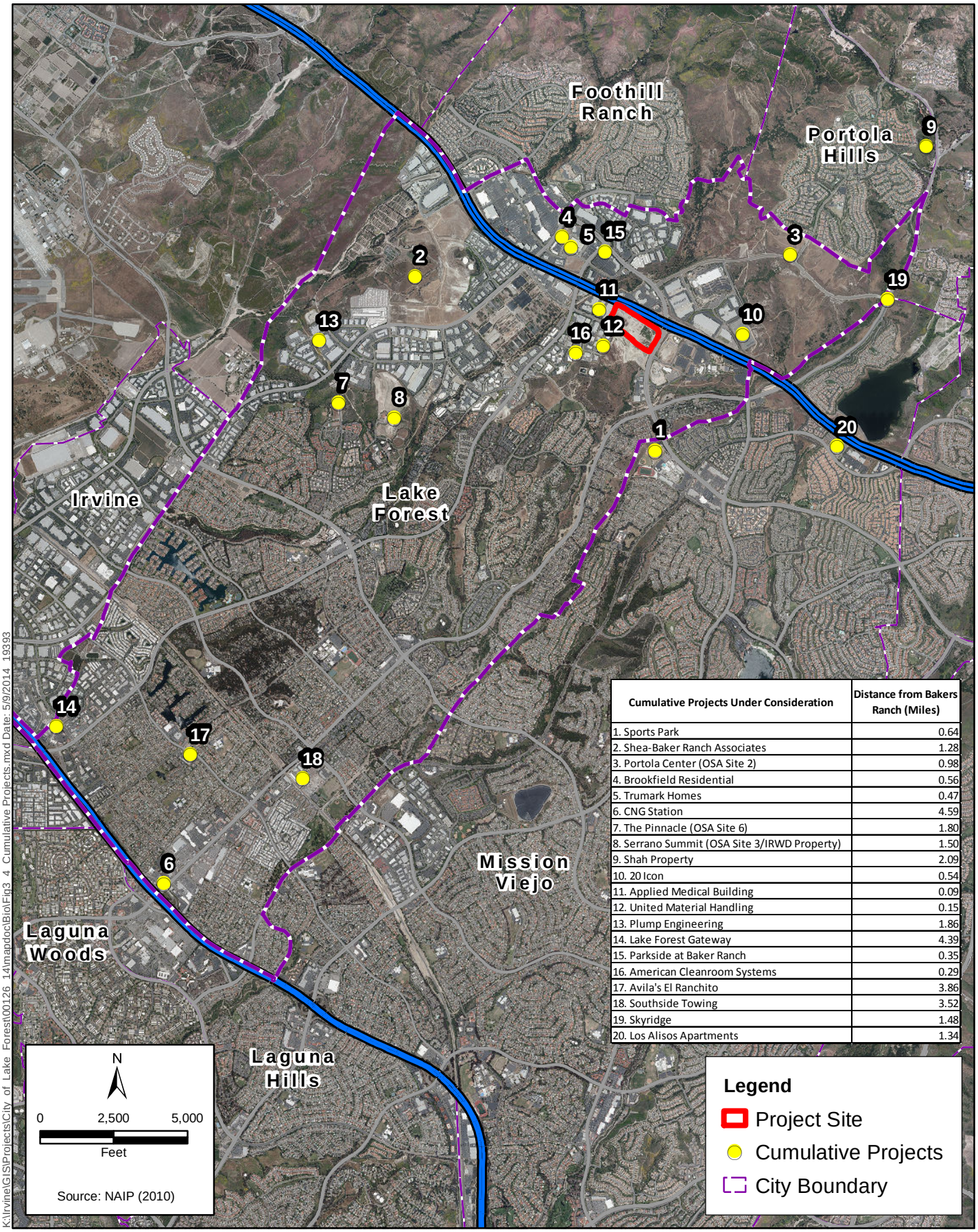
As described in Section IV, "Biological Resources," the proposed project's biological resources impacts would be limited to the construction phase and would be associated with the removal of low quality ruderal and California buckwheat scrub habitat, which could have California coastal gnatcatcher present. Mitigation Measures MM BIO-2 and BIO-3 would place conditions on removal of any vegetation outside the nesting season. Additionally, removal of any eucalyptus trees from the site would require a tree cutting permit from the City if conducted during the restricted period. Although past, present, and future projects such as those in Table 3-35 will continue to reduce the available biological resources in the cumulative project study area, which is considered cumulatively significant, the project's contribution to this loss is less than cumulatively considerable because the onsite biological resources are of low quality and any associated impacts would be fully mitigated. Therefore, the project's incremental contribution to cumulative biological resource impacts would not be cumulatively considerable.

Cultural Resources

As described in Section V, "Cultural Resources," the proposed project's cultural resources impacts would be limited to the construction phase when the ground disturbance would occur. As described in Section V, the possibility of encountering archaeological resources and human remains would be remote due to the lack of any evidence that sensitive cultural resources are present on site due to extensive mining that has occurred. However, there is a high potential for paleontological resources to be on site and any ground-disturbing activities would require mitigation to ensure a significant paleontological impact would not occur. Mitigation Measure MM CUL-1 provides specific monitoring and stop work requirements to ensure any fossil resources are recovered. Although past, present, and future projects such as those in Table 3-35 will continue to have the potential to encounter cultural resources in the cumulative project study area, and combined there is a potential cumulatively significant, the project's contribution to any loss of cultural resources is less than cumulatively considerable because there is a low potential for archaeological resources and paleontological resources would be recovered if encountered. Therefore, the project's incremental contribution to cumulative cultural resources impacts would not be cumulatively considerable.

Greenhouse Gas Emissions

As described in Section VI, "Greenhouse Gas Emissions," GHG emissions and climate change are exclusively cumulative impacts, and there are no non-cumulative GHG emission impacts from a climate change perspective. Climate change is the result of cumulative global emissions, and no single project, when taken in isolation, can cause climate change because a single project's emissions



Cumulative Projects Under Consideration	Distance from Bakers Ranch (Miles)
1. Sports Park	0.64
2. Shea-Baker Ranch Associates	1.28
3. Portola Center (OSA Site 2)	0.98
4. Brookfield Residential	0.56
5. Trumark Homes	0.47
6. CNG Station	4.59
7. The Pinnacle (OSA Site 6)	1.80
8. Serrano Summit (OSA Site 3/IRWD Property)	1.50
9. Shah Property	2.09
10. 20 Icon	0.54
11. Applied Medical Building	0.09
12. United Material Handling	0.15
13. Plump Engineering	1.86
14. Lake Forest Gateway	4.39
15. Parkside at Baker Ranch	0.35
16. American Cleanroom Systems	0.29
17. Avila's El Ranchito	3.86
18. Southside Towing	3.52
19. Skyridge	1.48
20. Los Alisos Apartments	1.34

K:\Irvine\GIS\Projects\City of Lake Forest\00126 14\mapdoc\Bio\Fig3 4 Cumulative Projects.mxd Date: 5/9/2014 19393

Figure 3-4
Cumulative Projects
City of Lake Forest Baker Ranch Residential Project

are not enough to change the radiative balance of the atmosphere. Because climate change is the result of GHG emissions and GHGs are emitted by innumerable sources worldwide, global climate change will have a significant cumulative impact on the natural environment as well as human development and activity. As such, GHGs and climate change are cumulatively considerable, even though the contribution may be individually limited (South Coast Air Quality Management District 2008c). SCAQMD methodology and thresholds are thus cumulative in nature. As discussed in Section VI, the project would be below the SCAQMD threshold of significance of 4.8 MT CO_2e/service population/year and consistent with adopted plans and regulations that aim to reduce GHG emissions. Therefore, the project's incremental contribution to cumulative GHG impacts would not be cumulatively considerable.

Hydrology and Water Quality

As described in Section IX, "Hydrology and Water Quality," the proposed project's hydrology and water quality impacts could occur during both the construction and operational phases. Construction of the proposed project would disturb more than 1 acre and, therefore, would be required to prepare and implement a SWPPP, in accordance with the General Construction Permit. The SWPPP would list BMPs that would be implemented to protect stormwater runoff, and monitoring of BMP effectiveness. At a minimum, BMPs would include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater.

During operation, bioretention and biofiltration treatment methods would provide onsite treatment of stormwater runoff. These treatment features consist of shallow landscaped depressions to which runoff is directed that use woody and herbaceous plants to mimic pollutant removal mechanisms that operate in forested ecosystem. Studies have demonstrated bioretention and biofiltration systems exhibit high removal rates (greater than 90%) for pollutants such as nutrients, metals, bacteria, and total suspended solids if they are maintained.

Moreover, the site is not in a floodplain and would not contribute to flooding or place people in harm from flooding. Past, present, and future projects will be required to implement BMPs and avoid flood areas (or engineer outside of the flood area) in the cumulative project study area. Combined, cumulative impacts from past, present, and future projects would be less than cumulatively significant. Thus, because water quality would not be adversely affected from the proposed project, the proposed project's contribution to cumulative hydrology and water quality impacts would not be cumulatively considerable.

Land Use and Planning

As described in Section X, "Land Use and Planning," the proposed project includes several plan amendments including a General Plan Amendment to re-designate the western portion of the project site as Low-Medium Density Residential and the eastern portion as Medium Density Residential, an amendment to the Baker Ranch Planned Community Development Plan and Supplemental Text to allow for implementation of detached and attached residential development, and a Reclamation Plan Amendment to ensure the proposed grading plan is consistent. Development of a residential project would be consistent with the applicable land use policies and the surrounding land uses, which include a sports park, church, and office parks, as well as direct access to major roadways and SR-241. Past, present, and future projects will be required to develop according to land use plans and regulations, which would help to ensure consistency with surrounding land uses. Therefore, cumulative land use impacts from past, present, and future

projects would be less than cumulatively significant. Thus, because the project would not result in any significant land use impacts and cumulative land use impacts are less than significant, the project's incremental contribution would not be cumulatively considerable.

Noise

As described in Section XII, "Noise," the proposed project's noise impacts would be limited primarily to the construction phase, traffic noise, and event noise from the Sports Park. Construction activities would be required to comply with the construction hours specified in the City's noise ordinance, which limits construction activities to between 7:00 a.m. and 8:00 p.m. from Monday through Saturday and prohibits construction on Sundays and federal holidays. Project-related traffic would not expose offsite noise-sensitive land uses to noise levels exceeding the City's noise standards or to a more than 3 dB CNEL increase by 2030. Onsite traffic noise levels would exceed applicable City and state noise standards at some of the proposed residences and mitigation measures (including exterior noise barriers and acoustical upgrades to the building construction) have been provided to reduce the exterior and interior traffic noise to levels that comply with the standards. Truck delivery and loading/unloading activities at the existing commercial/light industrial uses to the west of the project site may potentially exceed the City's noise ordinance standards at the proposed homes and a mitigation measure (an exterior noise barrier) has been provided to reduce this noise to a level that complies with the standards. Finally, analysis of future noise levels generated by the Sports Park to the south of the project site indicates that Sports Park noise levels propagating onto the project site would not exceed the noise standards of the City's General Plan or noise ordinance.

Past, present, and future projects have been and will continue to be required to comply with the noise ordinance and the City's Interior and Exterior Noise Standards from the General Plan. Therefore, cumulative noise impacts from past, present, and future projects would be less than cumulatively significant. Thus, because the project would not result in any significant noise impacts and cumulative noise impacts are less than significant, the project's incremental contribution would not be cumulatively considerable.

Population and Housing

As described in Section XIII, "Population and Housing," the proposed project would have a less than significant impact associated with direct population growth and would not have any impact related to indirect population growth, displacement of existing housing, and displacement of people. The proposed project includes the construction of up to 250 single-and multi-family attached and detached residential units on the approximately 30-acre project site. These housing units would range in size from 1,500 to 3,300 square feet. The proposed project is expected to accommodate approximatelyapproximately737 residents (City of Lake Forest 2014a). Compared to the City of Lake Forest's 2013 estimated population of 78,501, the additional 737 residents would represent less than a 1% increase in population.

Past, present, and future projects have been and will continue to contribute to growth. Cumulative population and housing impacts from past, present, and future projects are and will be cumulatively significant because the region will need to continue to expand to meet the needs of future generations and residents; however, the project's very small incremental contribution to this cumulative impact is considered less than cumulatively considerable.

Public Services

As described in Section XIV, "Public Services," the proposed project would have a less-than-significant impact with mitigation incorporated on fire protection, schools, parks, and libraries and a less-than-significant impact on police protection. Mitigation for fire protection, schools, parks, and libraries would ensure the proposed project would not place a substantial burden on these services, which would result in an adverse effect on response times and service ratios.

Past, present, and future projects have been and will continue to place demands on public services. Development impact fees will help offset the additional demand and an increase in local residents paying local taxes could be used to pay for more public services. Ultimately, public services are policy issues, but fees and taxes help ensure funding is available. Therefore, cumulative public service impacts from past, present, and future projects are and will be less than cumulatively significant because funding mechanisms are in place that afford local municipalities the ability to maintain public services commensurate with population. Thus, the project's small incremental contribution is considered less than cumulatively considerable.

Recreation

As described in Section XV, "Recreation," the proposed project would have a less-than-significant impact with mitigation incorporated on recreation. Mitigation for recreational facilities would ensure the proposed project would not place a substantial burden on these resources that if unmitigated could potentially result in an adverse effect on the environment.

Past, present, and future projects have been and will continue to place demands on recreational resources. Development impact fees will help offset the additional demand and an increase in local residents paying local taxes could be used to pay for more recreational space. Like public services, ultimately maintaining and increasing recreational resources are policy issues, but fees and taxes help ensure funding is available. Therefore, cumulative recreation impacts from past, present, and future projects are and will be less than cumulatively significant because funding mechanisms are in place that afford local municipalities the ability to maintain recreational resources commensurate with population. Thus, the project's small incremental contribution is considered less than cumulatively considerable.

Transportation/Traffic

As described in Section XVI, "Transportation/Traffic," the proposed project's transportation/traffic impacts would be limited primarily to the construction phase of the project. Mitigation is required to ensure construction traffic is coordinated with a traffic plan and emergency access is always provided. Operational traffic would not exceed a City threshold and would continue to operate at acceptable levels with the project.

A cumulative traffic analysis was prepared as part of the TIA (Appendix I), and includes the four intersections analyzed for the proposed project. The traffic implications of past, present, and reasonably foreseeable future projects include a future-term scenario for the year 2030 and thresholds for impacts are determined in the same method as the project-level analysis (maintaining LOS D or better).

Baseline traffic conditions in the year 2030 are composed of existing traffic conditions and ambient growth. As shown in Table 3-36, the study area intersections would continue to operate at

acceptable levels in the long-term with the proposed project, and the proposed project would not result in any cumulative traffic impacts.

Table 3-36. Year 2030 Peak Hour Intersection Capacity Analysis

	2030 Plus Project LOS	
Intersection	**AM**	**PM**
Lake Forest Drive / Rancho Parkway	B	C
Portola Parkway / Rancho Parkway	B	A
Portola Parkway / El Toro Road	B	D
Sports Park / Rancho Parkway	A	A

Source: Appendix I.

Thus, the proposed project's incremental contribution to cumulative traffic impacts would not be cumulatively considerable.

Utilities and Service Systems

As described in Section XVII, "Utilities and Service Systems," the proposed project would have a less-than-significant impact on all utilities, including water, wastewater, solid waste, electricity, and natural gas. Existing infrastructure already stubs into the project site, and the installation of utilities would be related specifically to onsite conveyance, distribution, and collection.

Past, present, and future projects have been and will continue to place demands on utility systems. Service fees will help offset the additional demand and developer fees would offset localized improvements. Cumulative utility and service system impacts from past, present, and future projects are and will be less than cumulatively significant because there is available capacity at the existing treatment plants and landfills and future expansions are planned in advance of any potential deficiencies. Thus, the project's small incremental contribution to utility demand is considered less than cumulatively considerable.

c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact with Mitigation Incorporated. Based on the analysis above, the proposed project could have potentially significant environmental effects related to air quality, biological resources, cultural resources, greenhouse gases, noise, and traffic that could cause substantial adverse effects on human beings, either directly or indirectly. However, implementation of mitigation measures, as provided within each of these resource topic sections of this environmental checklist, would reduce project-related significant impacts to less-than-significant levels. Therefore, after implementation of mitigation measures, the proposed project would result in a less-than-significant environmental impact on human beings.

Chapter 4
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